
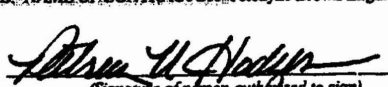



<b>AWARD/CONTRACT</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)		RATING <b>DO-A7</b>		PAGE OF PAGES <b>1 55</b>	
2. CONTRACT (Proc. Inst. Ident.) NO. <b>NNM04AA07C</b>		3. EFFECTIVE DATE <b>January 1, 2004</b>		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. <b>4200040794</b>			
5. ISSUED BY <b>Procurement Office, Mail Code PS41-D George C. Marshall Space Flight Center National Aeronautics and Space Administration Marshall Space Flight Center, AL 35812</b>		CODE <b>PS41D</b>		6. ADMINISTERED BY (If other than Item 6) <b>Wayne T. Harmon wayne.t.harmon@nasa.gov 256-544-5336</b>		CODE <b>PS41D</b>	
7. NAME AND ADDRESS OF CONTRACTOR (No. street, county, state and ZIP Code) <b>COLSA Corporation 6726 Odyssey Drive Huntsville, AL 35806</b>				8. DELIVERY <input type="checkbox"/> FOB ORIGIN <input type="checkbox"/> OTHER (See below)			
				9. DISCOUNT FOR PROMPT PAYMENT <b>N/A</b>			
CODE		Cage Code		FACILITY CODE		10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: <b>G2</b>	
11. SHIP TO/MARK FOR		CODE		12. PAYMENT WILL BE MADE BY <b>Marshall Space Flight Center, AL 35812 George C. Marshall Space Flight Center, NASA Marshall Space Flight Center, AL 35812 Automated Invoice Payment Information: (256) 544-5566</b>		CODE <b>RS23</b>	
13. AUTHORITY FOR USING OTHER FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c)( ) <input type="checkbox"/> 41 U.S.C. 253(c)( )				14. ACCOUNTING AND APPROPRIATION DATA <b>62-700-72-20 \$200,000.00 62-700-75-20 \$100,000.00</b>			
15A. ITEM NO.	15B. SUPPLIES/SERVICES		15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT	
	Huntsville Operations and Support Center (HOSC)					See B.1	
<b>15G. TOTAL AMOUNT OF CONTRACT</b>						<b>\$</b>	
<b>16. TABLE OF CONTENTS</b>							
(✓) SEC.	DESCRIPTION		PAGE(S)	(✓) SEC.	DESCRIPTION		PAGE(S)
<b>PART I - THE SCHEDULE</b>				<b>PART II - CONTRACT CLAUSES</b>			
X A	SOLICITATION/CONTRACT FORM		1	X I	CONTRACT CLAUSES		13
X B	SUPPLIES OR SERVICES AND PRICE/COST		13	<b>PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.</b>			
X C	DESCRIPTION/SPECS./WORK STATEMENT		1	X J	LIST OF ATTACHMENTS		1
X D	PACKAGING AND MARKING		1	<b>PART IV - REPRESENTATIONS AND INSTRUCTIONS</b>			
X E	INSPECTION AND ACCEPTANCE		2	K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS		
X F	DELIVERIES OR PERFORMANCE		4	L	INSTRS., CONDS., AND NOTICES TO OFFERORS		
X G	CONTRACT ADMINISTRATION DATA		9	M	EVALUATION FACTORS FOR AWARD		
X H	SPECIAL CONTRACT REQUIREMENTS		10				
<b>CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE</b>							
17. <input checked="" type="checkbox"/> <b>CONTRACTOR'S NEGOTIATED AGREEMENT</b> (Contractor is required to sign this document and return <u>3</u> copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				18. <input type="checkbox"/> <b>AWARD</b> (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.			
19A. NAME AND TITLE OF SIGNER (Type or print) <b>Patricia U. Hodges Director, Contracts</b>				20A. NAME OF CONTRACTING OFFICER <b>Emil L. Posey</b>			
19B. NAME OF CONTRACTOR <b>Teledyne Brown Engineering, Inc.</b>		19C. DATE SIGNED <b>October 1, 2003</b>		20B. UNITED STATES OF AMERICA <b>BY </b>		20C. DATE SIGNED <b>12-04-03</b>	
 (Signature of person authorized to sign)				 (Signature of Contracting Officer)			

## **PART I - THE SCHEDULE**

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### **SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS**

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#### **B.1 Supplies And/Or Services To Be Furnished**

- (a) In a manner consistent with the Marshall Space Flight Center (MSFC) values, the Contractor shall provide all resources (except as may be expressly stated in this contract as furnished by the Government) necessary for performing the "Huntsville Operations Support Center (HOSC)" in accordance with the Performance Work Statement, Attachment J-1.
- (b) This is a cost-reimbursement contract with both award fee and performance incentive fee criteria (CPAF/IF). The award fee (subjective evaluation) and performance incentive fee (objective evaluation) will be assessed in accordance with the Fee Evaluation Plan (FEP), Attachment J-7.
- (c) A portion of this contract is under an Indefinite Delivery/Indefinite Quantity (IDIQ) arrangement, which will also be on a CPAF/IF basis. The purpose of this provision is to allow the Government to acquire indefinite services as addressed in the Performance Work Statement, Attachment J-1, Paragraphs 3.0 and 4.0. IDIQ requirements cannot be adequately defined for inclusion in the contract because the precise quantities that will be required during the contract period of performance cannot be predetermined. IDIQ will be ordered in accordance with Clause B.7- Task Ordering Procedure and Clause B.8- IDIQ Schedule of Rates. The guaranteed minimum quantity of work that will be ordered under the IDIQ portion of this contract shall be \$50,000 per year. The maximum not-to-exceed (NTE) amount of IDIQ work per contract year is \$3,000,000 per contract year.

(End of Clause)

#### **B.2 Estimated Cost, Award Fee And Performance Incentive Fee**

- (a) The estimated cost of this contract is \$103,969,531. The maximum potential award fee is \$4,167,144. The maximum potential performance incentive fee is \$2,243,846. Total estimated cost, maximum potential award fee, and maximum potential performance incentive fee are \$110,380,521. It is expected that this contract will contain no base fee.
- (b) Breakout of estimated cost, maximum potential award fee, and maximum performance incentive fee is as follows:



<u>Period Covered</u>	<u>Estimated Cost</u>	<u>Maximum Award Fee</u>	<u>Award Fee Earned</u>	<u>Maximum Potential Perf. Fee</u>	<u>Performance Fee Earned</u>	<u>Total Contract Value</u>
1/1/04 - 12/31/06	\$63,424,512	\$2,553,834		\$1,375,141		\$67,353,487

(c) Breakout of estimated cost, maximum award fee, and maximum performance incentive fee for each option period are set forth below:

<u>Period Covered</u>	<u>Estimated Cost</u>	<u>Maximum Award Fee</u>	<u>Award Fee Earned</u>	<u>Maximum Potential Perf. Fee</u>	<u>Performance Fee Earned</u>	<u>Total Contract Value</u>
Option 1 (1/1/07 - 12/31/07)	\$20,094,150	\$797,496		\$429,421		\$21,321,067
Option 2 (1/1/08 - 12/31/08)	\$20,450,869	\$815,814		\$439,284		\$21,705,967

(d) The maximum potential award fee and performance incentive fee for each of the contract periods specified above will further be divided and allocated into individual six month evaluation periods during contract performance in order to calculate award and performance incentive fee earned.

(End of Clause)

### **B.3 Award Fee For Service Contracts (NFS 1852.216-76)(June 2000)**

(a) The Contractor can earn award fee from a minimum of zero dollars to the maximum stated in Clause B.2 "Estimated Cost, Award Fee, and Performance Incentive Fee" in this contract. The award fee pool will also consist of 65% of the fee negotiated for the effort of this contract and primarily covers all Performance Work Statement requirements in Attachment J-1, with the exception of Paragraph 4.4, "HOSC Mission Services".

(b) Beginning six months after the effective date of this contract, the Government shall evaluate the Contractor's performance every six months to determine the amount of award fee earned by the Contractor during the period. The Contractor may submit a self-evaluation of

performance for each evaluation period under consideration. These self-evaluations will be considered by the Government in its evaluation. The Government's Fee Determination Official (FDO) will determine the award fee amounts based on the Contractor's performance in accordance with Attachment J-7. The Government may revise the plan unilaterally prior to the beginning of any rating period to redirect emphasis.

(c) The Government will advise the Contractor in writing of the evaluation results. The MSFC Accounting Operations Office will make payment based on the modification to the contract which incorporates the earned award fee.

(d) After 85% of the potential award fee has been paid, the Contracting Officer may direct the withholding of further payment of award fee until a reserve is set aside in an amount that the Contracting Officer considers necessary to protect the Government's interest. This reserve shall not exceed 15% of the total potential award fee.

(e) The amount of award fee which can be awarded in each evaluation period is limited to the amounts set forth in Clause B.2 and as further allocated into the six month evaluation periods. Award fee which is not earned in an evaluation period cannot be reallocated for future evaluation periods.

(f) (1) Provisional award fee payments will be made under this contract pending the determination of the amount of fee earned for an evaluation period. If applicable, provisional award fee payments will be made to the Contractor on a monthly basis. The total amount of award fee available in an evaluation period that will be provisionally paid is the lesser of 80% of the maximum potential award fee or the prior period's evaluation score.

(2) Provisional award fee payments will be superseded by the final award fee evaluation for that period. If provisional payments exceed the final evaluation score, the Contractor will either credit the next payment voucher for the amount of such overpayment or refund the difference to the Government, as directed by the Contracting Officer.

(3) If the Contracting Officer determines that the Contractor will not achieve a level of performance commensurate with the provisional rate, payment of provisional award fee will be discontinued or reduced in such amounts as the Contracting Officer deems appropriate. The Contracting Officer will notify the Contractor in writing if it is determined that such discontinuance or reduction is appropriate.

(4) Provisional award fee payments will be made prior to the first award fee determination by the Government.

(g) Award fee determinations are unilateral decisions made solely at the discretion of the Government.

(End of Clause)

#### **B.4 Evaluation Of Performance Incentive Fee**

(a) The Contractor can earn performance incentive fee from a minimum of zero dollars to the maximum stated in Clause B.2 "Estimated Cost, Award Fee, and Performance Incentive Fee" in this contract. The potential performance incentive fee will constitute 35% of the fee negotiated for the effort of this contract and primarily covers the Performance Work Statement requirements in Attachment J-1, Paragraph 4.4, "HOSC Mission Services."

(b) Beginning six months after the effective date of this contract and every six months thereafter, the Government will evaluate the Contractor's performance to determine the amount of performance incentive fee earned by the Contractor during the period. The Government will determine the performance incentive fee amounts based on the Contractor's performance in accordance with Attachment J-7 .

(c) The Government will advise the Contractor in writing of the evaluation results. The MSFC Accounting Operations Office will make payment based on the modification to the contract which incorporates the earned performance incentive fee.

(d) After 85% of the potential performance incentive fee has been paid, the Contracting Officer may direct the withholding of further payment of performance incentive fee until a reserve is set aside in an amount that the Contracting Officer considers necessary to protect the Government's interest. This reserve shall not exceed 15% of the total potential performance fee.

(e) The amount of performance incentive fee which can be earned in each evaluation period is limited to the amounts set forth in Clause B.2. Performance incentive fee which is not earned in an evaluation period cannot be reallocated for future evaluation periods.

(f) (1) Provisional performance incentive fee payments will be made under this contract pending the determination of the amount of fee earned for an evaluation period. If applicable, provisional performance incentive fee payments will be made to the Contractor on a monthly basis. The total amount of performance incentive fee available in an evaluation period that will be provisionally paid is 80% of the maximum potential performance incentive fee.

(2) Provisional performance incentive fee payments will be superseded by the final performance incentive fee evaluation. If provisional payments exceed the final evaluation score, the Contractor will either credit the next payment voucher for the amount of such overpayment or refund the difference to the Government, as directed by the Contracting Officer.

(3) If the Contracting Officer determines that the Contractor will not achieve a level of performance commensurate with the provisional rate, payment of provisional performance incentive fee will be discontinued or reduced in such amounts as the Contracting Officer deems appropriate. The Contracting Officer will notify the Contractor in writing if it is determined that such discontinuance or reduction is appropriate.

(4) Provisional performance incentive fee payments will be made prior to the first performance incentive fee determination by the Government.

(End of Clause)

**B.5 Premiums For Scheduled Overtime (MSFC 52.222-90) (Feb 2001)**

Pursuant to the clause entitled "Payment for Overtime Premiums," the amount of overtime premium authorized shall not exceed the amount specified below for the indicated period.

<u>Period</u>	<u>Amount</u>
---------------	---------------

**Base Period (Yrs 1 - 3)**

**Option Period 1**

(b)(4)

**Option Period 2**

(End of Clause)

**B.6 Contract Funding (NFS 1852.232-81) (Jun 1990)**

(a) For purposes of payment of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract is \$282,000.00. This allotment is for Huntsville Operations Space Center (HOSC) Mission Support Services and covers the following estimated period of performance: contract award through Jan 5, 2004.

(b) An additional amount of \$18,000.00 is obligated under this contract for payment of fees.

(c) Recapitulation of funding is as follows:

	<u>Previous</u>	<u>This Action</u>	<u>Total</u>
Estimated Cost:	-0-	\$282,000	\$282,000
Award Fee Pool:	-0-	\$ 11,700	\$ 11,700
Performance Incentive Fee Pool:	-0-	\$ 6,300	\$ 6,300
Total Sum Allotted:	-0-	\$300,000	\$300,000

(End of Clause)

**B.7 Task Ordering Procedure (NFS 1852.216-80) (Oct 1996)**

(a) Only the Contracting Officer may issue task orders to the Contractor, providing specific authorization or direction to perform work within the scope of the contract and as specified in the schedule. The Contractor may incur costs under this contract in performance of task orders and task order modifications issued in accordance with this clause. No other costs are authorized unless otherwise specified in the contract or expressly authorized by the Contracting Officer.

(b) Prior to issuing a task order, the Contracting Officer shall provide the Contractor with the following data:

(1) A functional description of the work identifying the objectives or results desired from the contemplated task order.

(2) Proposed performance standards to be used as criteria for determining whether the work requirements have been met.

(3) A request for a task plan from the Contractor to include the technical approach, period of performance, appropriate cost information, and any other information required to determine the reasonableness of the Contractor's proposal.

(c) Within 25 calendar days after receipt of the Contracting Officer's request, the Contractor shall submit a task plan conforming to the request.

(d) After review and any necessary discussions, the Contracting Officer may issue a task order to the Contractor containing, as a minimum, the following:

(1) Date of the order.

(2) Contract number and order number.

(3) Functional description of the work identifying the objectives or results desired from the task order, including special instructions or other information necessary for performance of the task.

(4) Performance standards, and where appropriate, quality assurance standards.

(5) Maximum dollar amount authorized (cost and fee). This includes allocation of award fee among award fee periods, if applicable.

(6) Any other resources (travel, materials, equipment, facilities, etc.) authorized.

(7) Delivery/performance schedule including start and end dates.

(8) If contract funding is by individual task order, accounting and appropriation data.

(e) The Contractor shall provide acknowledgment of receipt to the Contracting Officer within 5 calendar days after receipt of the task order.

(f) If time constraints do not permit issuance of a fully defined task order in accordance with the procedures described in paragraphs (a) through (d), a task order which includes a ceiling price may be issued.

(g) The Contracting Officer may amend tasks in the same manner in which they were issued.

(h) In the event of a conflict between the requirements of the task order and the Contractor's approved task plan, the task order shall prevail.

(End of Clause)

### **B.8 IDIQ Schedule Of Rates**

(b)(4)



[

(b)(4)

]

(End of Clause)

**B.10 Allowable Cost and Payment (FAR 52.216-7) (Dec 2002)****(a) Invoicing.**

(1) The Government will make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with Federal Acquisition Regulation (FAR) Subpart 31.2 in effect on the date of this contract and the terms of this contract. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.

(2) Contract financing payments are not subject to the interest penalty provisions of the Prompt Payment Act. Interim payments made prior to the final payment under the contract are contract financing payments, except interim payments if this contract contains Alternate I to the clause at 52.232-25.

(3) The designated payment office will make interim payments for contract financing on the 30<sup>th</sup> day after the designated billing office receives a proper payment request. In the event that the Government requires an audit or other review of a specific payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date.

**(b) Reimbursing costs.**

(1) For the purpose of reimbursing allowable costs (except as provided in paragraph (b)(2) of this clause, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term "costs" includes only- (i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract; (ii) When the Contractor is not delinquent in paying costs of contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for-

(A) Supplies and services purchased directly for the contract and associated financing payments to subcontractors, provided payments determined due will be made- (1) In accordance with the terms and conditions of a subcontract or invoice; and (2) Ordinarily within 30 days of the submission of the Contractor's payment request to the Government;

(B) Materials issued from the Contractor's inventory and placed in the production process for use on the contract;

(C) Direct labor;

(D) Direct travel;

(E) Other direct in-house costs; and

(F) Properly allocable and allowable indirect costs, as shown in the records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and

(iii) The amount of financing payments that have been paid by cash, check, or other forms of payment to subcontractors.

(2) Accrued costs of Contractor contributions under employee pension plans shall be excluded until actually paid unless- (i) The Contractor's practice is to make contributions to the retirement fund quarterly or more frequently; and (ii) The contribution does not remain unpaid 30 days after the end of the applicable quarter or shorter payment period (any contribution remaining unpaid shall be excluded from the Contractor's indirect costs for payment purposes).

(3) Notwithstanding the audit and adjustment of invoices or vouchers under paragraph (g) of this clause, allowable indirect costs under this contract shall be obtained by applying indirect cost rates established in accordance with paragraph (d) of this clause.

(4) Any statements in specifications or other documents incorporated in this contract by reference designating performance of services or furnishing of materials at the Contractor's expense or at no cost to the Government shall be disregarded for purposes of cost-reimbursement under this clause.

(c) Small business concerns.

A small business concern may receive more frequent payments than every 2 weeks.

(d) Final indirect cost rates.

(1) Final annual indirect cost rates and the appropriate bases shall be established in accordance with Subpart 42.7 of the Federal Acquisition Regulation (FAR) in effect for the period covered by the indirect cost rate proposal.

(2)(i) The Contractor shall submit an adequate final indirect cost rate proposal to the Contracting Officer (or cognizant Federal agency official) and auditor within the 6-month period following the expiration of each of its fiscal years. Reasonable extensions, for exceptional circumstances only, may be requested in writing by the Contractor and granted in writing by the Contracting Officer. The Contractor shall support its proposal with adequate supporting data. (ii) The proposed rates shall be based on the Contractor's actual cost experience for that period. The appropriate Government representative and the Contractor shall establish the final indirect cost rates as promptly as practical after receipt of the Contractor's proposal.

(3) The Contractor and the appropriate Government representative shall execute a written understanding setting forth the final indirect cost rates. The understanding shall specify (i) the agreed-upon final annual indirect cost rates, (ii) the bases to which the rates apply, (iii) the periods for which the rates apply, (iv) any specific indirect cost items treated as direct costs in the settlement, and (v) the affected contract and/or subcontract, identifying any with advance agreements or special terms and the applicable rates. The understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract. The understanding is incorporated into this contract upon execution.

(4) Failure by the parties to agree on a final annual indirect cost rate shall be a dispute within the meaning of the Disputes clause.

(5) Within 120 days (or longer period if approved in writing by the Contracting Officer) after settlement of the final annual indirect cost rates for all years of a physically complete contract, the Contractor shall submit a completion invoice or voucher to reflect the settled amounts and rates.

(6)(i) If the Contractor fails to submit a completion invoice or voucher within the time specified in paragraph (d)(5) of this clause, the Contracting Officer may- (A) Determine the amounts due to the Contractor under the contract; and (B) Record this determination in a unilateral modification to the contract. (ii) This determination constitutes the final decision of the Contracting Officer in accordance with the Disputes clause.

**(e) Billing rates.**

Until final annual indirect cost rates are established for any period, the Government shall reimburse the Contractor at billing rates established by the Contracting Officer or by an authorized representative (the cognizant auditor), subject to adjustment when the final rates are established. These billing rates- (1) Shall be the anticipated final rates; and (2) May be prospectively or retroactively revised by mutual agreement, at either party's request, to prevent substantial overpayment or underpayment.

**(f) Quick-closeout procedures.**

Quick-closeout procedures are applicable when the conditions in FAR 42.708(a) are satisfied.

**(g) Audit.**

At any time or times before final payment, the Contracting Officer may have the Contractor's invoices or vouchers and statements of cost audited. Any payment may be- (1) Reduced by amounts found by the Contracting Officer not to constitute allowable costs; or (2) Adjusted for prior overpayments or underpayments.

**(h) Final payment.**

(1) Upon approval of a completion invoice or voucher submitted by the Contractor in accordance with paragraph (d)(5) of this clause, and upon the Contractor's compliance with all terms of this contract, the Government shall promptly pay any balance of allowable costs and that part of the fee (if any) not previously paid.

(2) The Contractor shall pay to the Government any refunds, rebates, credits, or other amounts (including interest, if any) accruing to or received by the Contractor or any assignee under this contract, to the extent that those amounts are properly allocable to costs for which the Contractor has been reimbursed by the Government. Reasonable expenses incurred by the Contractor for securing refunds, rebates, credits, or other amounts shall be allowable costs if approved by the Contracting Officer. Before final payment under this contract, the Contractor and each assignee whose assignment is in effect at the time of final payment shall execute and deliver- (i) An assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including interest, if any) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and (ii) A release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, except-

(A) Specified claims stated in exact amounts, or in estimated amounts when the exact amounts are not known;

(B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer within 6 years following the release date or notice of final payment date, whichever is earlier; and

(C) Claims for reimbursement of costs, including reasonable incidental expenses, incurred by the Contractor under the patent clauses of this contract, excluding, however, any expenses arising from the Contractor's indemnification of the Government against patent liability.

(End of Clause)

#### **B.11 Contract Extension Resulting From Protests**

(a) If the award of a successor contract to perform the services being performed under this contract is delayed because of a protest, the Contracting Officer may extend the period of performance on this contract to cover any delay caused by such a protest. The Contractor shall be entitled to an equitable adjustment for such an extension, subject to the limitations in paragraph (b).

(b) The final award fee evaluation period may be extended to include the contract extension period provided for in paragraph (a). However, if the Contractor is the protestor or one of the protestors, no additional fee shall be put in the award fee pool or otherwise made available to the Contractor, unless the Contractor or another protestor substantially prevails in the protest.

(End of Clause)

#### **B.12 Ordering (FAR 52.216-18) (Oct 1995)**

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from Contract Award through Contract Completion.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

(End of Clause)

**B.13 Order Limitations (FAR 52.216-19) (Oct 1995)**

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than \$5,000, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) Maximum order. The Contractor is not obligated to honor-

- (1) Any order for a single item in excess of \$3,000,000;
- (2) Any order for a combination of items in excess of \$15,000,000; or
- (3) A series of orders from the same ordering office within 30 days that together call for quantities exceeding the limitation in paragraph (b)(1) or (2) of this section.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) of this section.

(d) Notwithstanding paragraphs (b) and (c) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 5 days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

(End of Clause)

**B.14 Indefinite Quantity (FAR 52.216-22) (Oct 1995)**

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum." The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum."

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided,



that the Contractor shall not be required to make any deliveries under this contract after the end of the period of performance.

(End of Clause)

(END OF SECTION)

## **SECTION C - DESCRIPTION/SPECIFICATION/WORK STATEMENT**

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### **C.1 Description/Specifications/Statement Of Work (MSFC 52.211-93) (FEB 2001)**

The Description/Specifications/Statement of Work for the HOSC effort is Attachment J-1, "Performance Work Statement."

(End of Clause)

### **C.2 General**

It is understood and agreed that the work performed under this contract is on a completion-form contract basis and that the applicable Performance Work Statement (PWS) is stated in broad terms in order to achieve maximum required flexibility. Detailed Government direction will be limited to the minimum necessary to assure operational requirements are met. The Contractor shall be responsible for staffing the contract with appropriate skills and numbers of personnel to assure work is performed in a high quality, timely, and cost effective manner. The Contractor's obligation under this contract shall include resolution of unusual or emergency situations or increased work volume, which may occur from time to time throughout the period of performance. Work and increased work volume of this nature, e.g. mission model changes, directed of the Contractor by the Government will be by "Work Directives" from the Contracting Officer or his Representative. Services so directed shall be considered within the general scope of the contract, entirely within the Contractor's original obligation and will not constitute nor be construed as a change within the meaning of the clause of this contract entitled "Changes – Cost Reimbursement – Alternate I." However, if any written direction by the Government through Work Directives is considered by the Contractor to be a change to the original contractual obligation, the Contractor, before performing any effort pursuant to such Government direction, shall refer such questions to the Contracting Officer for resolution in accordance with the procedures set forth in the Technical Direction Clause (Section G) of this contract.

(End of Clause)

[END OF SECTION]

**SECTION D - PACKAGING AND MARKING**

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**D.1 Listing Of Clauses Incorporated By Reference**

NOTICE: The following contract clauses pertinent to this section are hereby incorporated by reference:

**I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)**

CLAUSE NUMBER	DATE	TITLE
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None included by reference.
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**II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES**

CLAUSE NUMBER	DATE	TITLE
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1852.211-70	JUN 2000	PACKAGING, HANDLING, AND TRANSPORTATION
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(End of Clause)

[END OF SECTION]

**SECTION E - INSPECTION AND ACCEPTANCE**

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**E.1 Listing Of Clauses Incorporated By Reference**

NOTICE: The following contract clauses pertinent to this section are hereby incorporated by reference:

**I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)**

CLAUSE NUMBER	DATE	TITLE
52.246-1	APR 1984	CONTRACTOR INSPECTION REQUIREMENTS
52.246-3	APR 1984	INSPECTION OF SUPPLIES-COST- REIMBURSEMENT
52.246-5	APR 1984	INSPECTION OF SERVICES-- COST- REIMBURSEMENT

**II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES**

CLAUSE  
NUMBER    DATE    TITLE

None included by reference.
-----------------------------

(End of Clause)

**E.2 Material Inspection And Receiving Report (NFS 1852.246-72) (JUN 1995)**

(a) At the time of each delivery to the Government under this contract, the Contractor shall furnish a Material Inspection and Receiving Report (DD Form 250 series) prepared in 3 copies, an original and 2 copies.

(b) The Contractor shall prepare the DD Form 250 in accordance with NASA FAR Supplement 1846.672-1. The Contractor shall enclose the copies of the DD Form 250 in the package or seal them in a waterproof envelope, which shall be securely attached to the exterior of the package in the most protected location.

(c) When more than one package is involved in a shipment, the Contractor shall list on the DD Form 250, as additional information, the quantity of packages and the package numbers. The Contractor shall forward the DD Form 250 with the lowest numbered package of the shipment and print the words "CONTAINS DD FORM 250" on the package.

(End of Clause)

**E.3 Place Of Final Inspection And Acceptance**

The place of final inspection and acceptance for deliverables under this contract shall be at the George C. Marshall Space Flight Center, AL 35812, at the site requiring the deliverables, or as otherwise directed by the Contracting Officer.

(End of Clause)

[END OF SECTION]



## SECTION F - DELIVERIES OR PERFORMANCE

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### **F.1 Listing Of Clauses Incorporated By Reference**

NOTICE: The following contract clauses pertinent to this section are hereby incorporated by reference:

#### **I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)**

CLAUSE NUMBER	DATE	TITLE
52.211-15	SEP 1990	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS
52.242-15	AUG 1989	STOP-WORK ORDER (ALTERNATE I) (APR 1984)
52.247-34	NOV 1991	F.O.B. DESTINATION
52.247-65	JAN 1991	F.O.B. ORIGIN, PREPAID FREIGHT - SMALL PACKAGE SHIPMENTS

#### **II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES**

CLAUSE NUMBER	DATE	TITLE
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None included by reference
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(End of Clause)

### **F.2 Period Of Performance**

- (a) The period of performance of the base contract effort shall be January 1, 2004 through December 31, 2006.
- (b) In the event the Government elects to exercise its option(s) pursuant to the terms of this contract, the period of performance for each option shall be as set forth below:

<u>Option No.</u>	<u>Period of Performance</u>
1	01/01/07 – 12/31/07
2	01/01/08 – 12/31/08

(End of Clause)

**F.3 Option to Extend the Term of the Contract (FAR 52.217-9) (Mar 2000)**

- (a) The Government may extend the term of this contract by written notice to the Contractor within the period of performance of this contract; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 60 days before the contract expires. The preliminary notice does not commit the Government to an extension.
- (b) If the Government exercises this option, the extended contract shall be considered to include this option clause.
- (c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 66 months.

(End of Clause)

**F.4 Place Of Performance (MSFC 52.237-91) (Feb 2001)**

The Contractor shall perform the work under this contract at the Marshall Space Flight Center, and at such other locations as may be approved in writing by the Contracting Officer.

(End of Clause)

**F.5 Bills Of Lading (NFS 1852.247-73) (JUN 2002)**

The purpose of this clause is to define when a commercial bill of lading or a government bill of lading is to be used when shipments of deliverable items under this contract are f.o.b. origin.

(a) Commercial Bills of Lading. All domestic shipments shall be made via commercial bills of lading (CBL). The Contractor shall prepay domestic transportation charges. The Government shall reimburse the Contractor for these charges if they are added to the invoice as a separate line item supported by the paid freight receipts. If paid receipts in support of the invoice are not obtainable, a statement as described below must be completed, signed by an authorized company representative, and attached to the invoice.

"I certify that the shipments identified below have been made, transportation charges have been paid by (company name), and paid freight or comparable receipts are not obtainable.

Contract or Order Number: \_\_\_\_\_

Destination: \_\_\_\_\_".

(b) Government Bills of Lading. (1) International (export) and domestic overseas shipments of items deliverable under this contract shall be made by Government bills of lading (GBL). As

used in this clause, "domestic overseas" means non-continental United States, i.e. Hawaii, Commonwealth of Puerto Rico, and possessions of the United States.

(2) At least 15 days before shipment, the Contractor shall request in writing GBLs from:

\_\_\_\_\_TBD\_\_\_\_\_

\_\_\_\_\_  
[Insert name, title, and mailing address of designated transportation officer or other official delegated responsibility for GBLs].

If time is limited, requests may be by telephone: \_\_\_\_\_TBD\_\_\_\_\_  
[Insert appropriate telephone number].

Requests for GBLs shall include the following information.

- (i) Item identification/ description.
- (ii) Origin and destination.
- (iii) Individual and total weights.
- (iv) Dimensional Weight.
- (v) Dimensions and total cubic footage.
- (vi) Total number of pieces.
- (vii) Total dollar value.
- (viii) Other pertinent data.

(End of Clause)

#### **F.6 Delivery Schedule**

The Contractor shall deliver the items required to be furnished by this contract as follows:

<u>Item No.</u>	<u>Description</u>	<u>Quantity</u>	<u>Delivery Date</u>	<u>Shipping Address</u>
	SEE ATTACHMENT J-1			*SEE BELOW

\*SHIP TO: National Aeronautics and Space Administration  
George C. Marshall Space Flight Center  
Attn: CN72/Transportation Officer  
Building 4471  
Marshall Space Flight Center, AL 35812

(AND OTHER LOCATIONS AS APPROVED IN WRITING BY THE CONTRACTING OFFICER)

(End of Clause)

**F.7 Free On Board (FOB) Point**

(a) The FOB point for deliverables under this contract shall be the George C. Marshall Space Flight Center, Marshall Space Flight Center, AL 35812, at the sites requiring the deliverables, or for specific items, when so directed by the Contracting Officer or his duly authorized representative, at the Contractor's facilities.

(b) Those items having the FOB point at the Contractor's facilities in accordance with (a) above shall be shipped as directed by the Contracting Officer or his duly authorized representative and in accordance with F.4 or alternately in accordance with clause 52.247-1, "Commercial Bill of Lading Notations."

(End of Clause)

**F.8 Section 10721 Rates (MSFC 52.247-90) (FEB 2001)**

The Contractor shall use carriers that offer acceptable service at reduced rates (Section 10721 rates), if available.

(End of Clause)

[END OF SECTION]

## SECTION G - CONTRACT ADMINISTRATION DATA

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### **G.1 Listing Of Clauses Incorporated By Reference**

NOTICE: The following contract clauses pertinent to this section are hereby incorporated by reference:

#### **I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)**

CLAUSE  
NUMBER    DATE    TITLE

52.227-11	JUN 1997	PATENT RIGHTS-RETENTION BY THE CONTRACTOR (SHORT FORM)
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#### **II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES**

CLAUSE  
NUMBER    DATE    TITLE

1852.227-11	JUL 1997	PATENT RIGHTS-RETENTION BY THE CONTRACTOR (SHORT FORM)
1852.242-71	DEC 1988	TRAVEL OUTSIDE OF THE UNITED STATES
1852.242-73	JUL 2000	NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING
1852.245-70	JUL 1997	CONTRACTOR REQUESTS FOR GOVERNMENT-OWNED EQUIPMENT

(End of Clause)

### **G.2 Submission Of Vouchers For Payment (NFS 1852.216-87) (MAR 1998)**

(a) The designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract is indicated below. Public vouchers for payment of costs shall include a reference to the number of this contract.

(b) (1) If the contractor is authorized to submit interim cost vouchers directly to the NASA paying office, they shall be prepared in accordance with paragraph (c) of this clause and submitted to:



George C. Marshall Space Flight Center  
Attn: RS20/Accounting Operations Office  
Marshall Space Flight Center, AL 35812

(2) For any period that the Defense Contract Audit Agency (DCAA) has authorized the Contractor to submit interim vouchers directly to the Government paying office, interim vouchers are not required to be sent to the Auditor, and are considered to be provisionally approved for payment, subject to final audit.

(3) Copies of vouchers should be submitted as directed by the Contracting Officer.

(c) If the contractor is not authorized to submit interim cost vouchers directly to the paying office as described in paragraph (b), the contractor shall prepare and submit vouchers as follows:

- (1) One original Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment to the cognizant DCAA office;
- (2) Five copies of SF 1034A, SF 1035A, or equivalent Contractor's attachment to the following offices by insertion in the memorandum block of their names and addressees:

- (i) Copy 1 - NASA Contracting Officer
- (ii) Copy 2 - DCAA Auditor
- (iii) Copy 3 - Contractor
- (iv) Copy 4 - Contract Administration Office, if delegated
- (v) Copy 5 - Project Manager

(3) The Contracting Officer may designate other recipients as required.

(d) Public vouchers for payment of fee shall be prepared similarly to the procedure in paragraph (c) of this clause, and be forwarded to:

George C. Marshall Space Flight Center  
Attn: RS20/Accounting Operations Office  
Marshall Space Flight Center AL 35812

This is the designated billing office for fee vouchers for purposes of the Prompt Payment clause of this contract.

(e) In the event that amounts are withheld from payment in accordance with provisions of this contract, a separate voucher for the amount withheld will be required before payment for that amount may be made.

(End of Clause)

**G.3 Designation of New Technology Representative and Patent Representative**  
**(NFS 1852.227-72) (JUL 1997)**

(a) For purposes of administration of the clause of this contract entitled "New Technology" or "Patent Rights - Retention by the Contractor (Short Form)", whichever is included, the following named representatives are hereby designated by the Contracting Officer to administer such clause:

New Technology Representative/CD30  
NASA Marshall Space Flight Center  
Marshall Space Flight Center AL 35812

Patent Representative/LS01  
NASA Marshall Space Flight Center  
Marshall Space Flight Center AL 35812

(b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the clause, as well as any correspondence with respect to such matters, should be directed to the New Technology Representative unless transmitted in response to correspondence or request from the Patent Representative. Inquiries or requests regarding disposition of rights, election of rights, or related matters should be directed to the Patent Representative. This clause shall be included in any subcontract hereunder requiring a "New Technology" clause or "Patent Rights - Retention by the Contractor (Short Form)" clause, unless otherwise authorized or directed by the Contracting Officer. The respective responsibilities and authorities of the above-named representatives are set forth in 1827.305-370 of the NASA FAR Supplement.

(End of Clause)

**G.4 Technical Direction (NFS 1852.242-70) (SEP 1993)**

(a) Performance of the work under this contract is subject to the written technical direction of the Contracting Officer Technical Representative (COTR), who shall be specifically appointed by the Contracting Officer in writing in accordance with NASA FAR Supplement 1842.270. "Technical direction" means a directive to the Contractor that approves approaches, solutions, designs, or refinements; fills in details or otherwise completes the general description of work or documentation items; shifts emphasis among work areas or tasks; or furnishes similar instruction to the Contractor. Technical direction includes requiring studies and pursuit of certain lines of inquiry regarding matters within the general tasks and requirements in Section C of this contract.

(b) The COTR does not have the authority to, and shall not, issue any instruction purporting to be technical direction that--

- (1) Constitutes an assignment of additional work outside the Performance Work Statement;

- (2) Constitutes a change as defined in the changes clause;
- (3) Constitutes a basis for any increase or decrease in the total estimated contract cost, the fixed fee (if any), or the time required for contract performance;
- (4) Changes any of the expressed terms, conditions, or specifications of the contract; or
- (5) Interferes with the Contractor's rights to perform the terms and conditions of the contract.

(c) All technical direction shall be issued in writing by the COTR.

(d) The Contractor shall proceed promptly with the performance of technical direction duly issued by the COTR in the manner prescribed by this clause and within the COTR's authority.

If, in the Contractor's opinion, any instruction or direction by the COTR falls within any of the categories defined in paragraph (b) above, the Contractor shall not proceed but shall notify the Contracting Officer in writing within 5 working days after receiving it and shall request the Contracting Officer to take action as described in this clause. Upon receiving this notification, the Contracting Officer shall either issue an appropriate contract modification within a reasonable time or advise the Contractor in writing within 30 days that the instruction or direction is--

(1) Rescinded in its entirety; or

(2) Within the requirements of the contract and does not constitute a change under the changes clause of the contract, and that the Contractor should proceed promptly with its performance.

(e) A failure of the Contractor and Contracting Officer to agree that the instruction or direction is both within the requirements of the contract and does not constitute a change under the changes clause, or a failure to agree upon the contract action to be taken with respect to the instruction or direction, shall be subject to the Disputes clause of this contract.

(f) Any action(s) taken by the Contractor in response to any direction given by any person other than the Contracting Officer or the COTR shall be at the Contractor's risk.

(End of Clause)

#### **G.5 Installation-Accountable Government Property (NFS 1852.245-71) (JUN 1998)**

(a) The Government property described in the clause at 1852.245-77, List of Installation-Accountable Property and Services, shall be made available to the Contractor on a no-charge basis for use in performance of this contract. This property shall be utilized only within the physical confines of the NASA installation that provided the property. Under this clause, the Government retains accountability for, and title to, the property, and the Contractor assumes the following user responsibilities:

The contractor shall establish and adhere to a system of written procedures for compliance with these user responsibilities. Such procedures must include holding employees liable, when appropriate, for loss, damage, or destruction of Government property.

(b) (1) The official accountable record-keeping, physical inventory, financial control, and reporting of the property subject to this clause shall be retained by the Government and accomplished by the installation Supply and Equipment Management Officer (SEMO) and Financial Management Officer. If this contract provides for the contractor to acquire property, title to which will vest in the Government, the following additional procedures apply:

(i) The contractor's purchase order shall require the vendor to deliver the property to the installation central receiving area;

(ii) The contractor shall furnish a copy of each purchase order, prior to delivery by the vendor, to the installation central receiving area:

(iii) The contractor shall establish a record of the property as required by FAR 45.5 and 1845.5 and furnish to the Industrial Property Officer a DD Form 1149 Requisition and Invoice/Shipping Document (or installation equivalent) to transfer accountability to the Government within 5 working days after receipt of the property by the contractor. The contractor is accountable for all contractor-acquired property until the property is transferred to the Government's accountability.

(iv) Contractor use of Government property at an off-site location and off-site subcontractor use require advance approval of the contracting officer and notification of the SEMO. The contractor shall assume accountability and financial reporting responsibility for such property. The contractor shall establish records and property control procedures and maintain the property in accordance with the requirements of FAR Part 45.5 until its return to the installation.

(2) After transfer of accountability to the Government, the contractor shall continue to maintain such internal records as are necessary to execute the user responsibilities identified in paragraph (a) and document the acquisition, billing, and disposition of the property. These records and supporting documentation shall be made available, upon request, to the SEMO and any other authorized representatives of the contracting officer.

(End of Clause)

**G.6 List of Installation-Accountable Property and Services (NFS 1852.245-77) (JUL 1997)**

In accordance with the clause at 1852.245-71, Installation-Accountable Government Property, the Contractor is authorized use of the types of property and services listed below, to the extent they are available, in the performance of this contract within the physical borders of the

installation which may include buildings and space owned or directly leased by NASA in close proximity to the installation, if so designated by the Contracting Officer:

- (a) Office space, work area space, and utilities. Government telephones are available for official purposes only; pay telephones are available for contractor employees for unofficial calls.
- (b) General- and special-purpose equipment, including office furniture:
  - (1) Equipment to be made available is listed in Attachment J-8. The Government retains accountability for this property under the clause at 1852.245-71, Installation-Accountable Government Property, regardless of its authorized location.
  - (2) If the Contractor acquires property, title to which vests in the Government pursuant to other provisions of this contract, this property also shall become accountable to the Government upon its entry into Government records as required by the clause at 1852.245-71, Installation-Accountable Government Property.
  - (3) The Contractor shall not bring to the installation for use under this contract any property owned or leased by the Contractor, or other property that the Contractor is accountable for under any other Government contract, without the Contracting Officer's prior written approval.
- (c) General Office Supplies.
- (d) Publications and blank forms stocked by the installation.
- (e) Safety and fire protection for Contractor personnel and facilities.
- (f) Installation service facilities: See Attachment J-8.
- (g) Medical treatment of a first-aid nature for Contractor personnel injuries or illnesses sustained during on-site duty.
- (h) Cafeteria privileges for Contractor employees during normal operating hours.
- (i) Building maintenance for facilities occupied by Contractor personnel.
- (j) Moving and hauling for office moves, movement of large equipment, and delivery of supplies. Moving services shall be provided on-site, as approved by the Contracting Officer.
- (k) The user responsibilities of the Contractor are defined in paragraph (a) of the clause at 1852.245-71, Installation-Accountable Government Property.

(End of Clause)

**G.7 Financial Reporting of NASA Property in the Custody of Contractors (NFS 1852.245-73) (AUG 2001)**

- (a) The Contractor shall submit annually a NASA Form (NF) 1018, NASA Property in the Custody of Contractors, in accordance with the provisions of 1845.505-14, the instructions on

the form, subpart 1845.71, and any supplemental instructions for the current reporting period issued by NASA.

- (b) (1) Subcontractor use of NF 1018 is not required by this clause; however, the Contractor shall include data on property in the possession of subcontractors in the annual NF 1018.
- (2) The Contractor shall mail the original signed NF 1018 directly to the cognizant NASA Center Deputy Chief Financial Officer, Finance, unless the Contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission. One copy shall be submitted (through the Department of Defense (DOD) Property Administrator if contract administration has been delegated to DOD) to the following address: National Aeronautics and Space Administration, George C. Marshall Space Flight Center, Marshall Space Flight Center AL 35812, unless the Contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission.
- (c) The annual reporting period shall be from October 1 of each year through September 30 of the following year. The report shall be submitted in time to be received by October 31. The information contained in these reports is entered into the NASA accounting system to reflect current asset values for agency financial statement purposes. Therefore, it is essential that required reports be received no later than October 31. The Contracting Officer may, in NASA's interest, withhold payment until a reserve not exceeding \$25,000 or 5 percent of the amount of the contract, whichever is less, has been set aside, if the Contractor fails to submit annual NF 1018 reports in accordance with 1845.505-14 and any supplemental instructions for the current reporting period issued by NASA. Such reserve shall be withheld until the Contracting Officer has determined that the required reports have been received by NASA. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.
- (d) A final report shall be submitted within 30 days after disposition of all property subject to reporting when the contract performance period is complete in accordance with (b)(1) through (3) of this clause.

(End of Clause)

#### **G.8 List Of Government-Furnished Property (NFS 1852.245-76) (OCT 1988)**

For performance of work under this contract, the Government will make available Government property identified below or in Attachment J-5 of this contract on a no-charge-for-use basis. The Contractor shall use this property in the performance of this contract at Marshall Space Flight Center (MSFC) and at other location(s) as may be approved by the Contracting Officer. Under the FAR 52.245 Government Property clause of this contract, the Contractor is accountable for the identified property.

(End-Of-Clause)

**G.9 Contractor Employee Badging And Employment Termination Clearance**  
**(MSFC 52.204-90) (NOV 1999)**

(a) It is anticipated that performance of the requirements of this contract will require employee access to and picture badging by the Marshall Space Flight Center. Contractor requests for badging of employees shall be by MSFC Form 1739, "Contractor Badge/Decal Application." Requests for badging shall be submitted to the appointed Contracting Officer Technical Representative for completion and approval prior to processing by the MSFC Protective Services Department.

(b) The Contractor shall establish procedures to ensure that each badged employee is properly cleared in accordance with MSFC Form 383-1, "Contractor Employee Clearance Document," prior to finalization of employment termination.

(c) Requests for copies of MSFC Forms 383-1, and 1739 shall be directed to the MSFC Protective Services Department, Marshall Space Flight Center, Alabama 35812.

(End of Clause)

**G.10 Statement Of Equivalent Rates For Federal Hires (FAR 52.222-42) (MAY 1989)**

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

THIS STATEMENT IS FOR INFORMATION ONLY:  
 IT IS NOT A WAGE DETERMINATION

**A. Classification, Grade, Rates**

<u>Classification</u>	<u>Grade</u>	<u>Rate</u>
Computer Operator III	GS-06	15.02
Computer Operator V	GS-08	18.49
Computer Programmer I	GS-05	13.48
Computer Programmer III	GS-09	20.42
Computer Programmer IV	GS-11	24.71
Computer Systems Analyst II	GS-11	24.71
Computer Systems Analyst III	GS-12	29.61
Electronics Technician, Maintenance III	WG-10	17.21
Engineering Technician II	GS-04	12.05
Engineering Technician IV	GS-07	16.69
Engineering Technician VI	GS-11	24.71
Material Coordinator	WG-07	14.99
Secretary I	GS-04	12.05
Secretary III	GS-06	15.02
Secretary IV	GS-07	16.69
Technical Writer	GS-11	24.71



**B. Fringe Benefits (applicable to all classifications)**

1. **Insurance and Health Programs**  
Life, accident, and health insurance and sick leave programs (22 percent of basic hourly rate).
2. **Holidays**
  - a. New Year's Day
  - b. Martin Luther King, Jr. Day
  - c. Presidents' Day
  - d. Memorial Day
  - e. Independence Day
  - f. Labor Day
  - g. Columbus Day
  - h. Veterans' Day
  - i. Thanksgiving Day
  - j. Christmas Day
3. **Vacation or Paid Leave**
  - a. 2 hours of annual leave each week for an employee with less than three years of service.
  - b. 3 hours of annual leave each week for an employee with less than fifteen years of service.
  - c. 4 hours of annual leave each week for an employee with fifteen or more years of service.
4. **Retirement**  
1.5 percent of basic hourly rate plus Thrift Saving Plan plus Social Security.

(End of Clause)

[END OF SECTION]



## SECTION H - SPECIAL CONTRACT REQUIREMENTS

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### **H.1 Listing Of Clauses Incorporated By Reference**

NOTICE: The following contract clauses pertinent to this section are hereby incorporated by reference:

#### **I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)**

CLAUSE NUMBER	DATE	TITLE
52.223-5	APR 1998	POLLUTION PREVENTION AND RIGHT- TO- KNOW INFORMATION

#### **II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES**

CLAUSE NUMBER	DATE	TITLE
1852.204-74	MAY 2002	CENTRAL CONTRACTOR REGISTRATION
1852.208-81	OCT 2001	RESTRICTIONS ON PRINTING AND DUPLICATING
1852.223-70	APR 2002	SAFETY AND HEALTH
1852.223-74	MAR 1996	DRUG- AND ALCOHOL-FREE WORKFORCE
1852.223-75	FEB 2002	MAJOR BREACH OF SAFETY OR SECURITY
1852.228-75	OCT 1988	MINIMUM INSURANCE COVERAGE
1852.237-70	DEC 1988	EMERGENCY EVACUATION PROCEDURES
1852.242-72	AUG 1992	OBSERVANCE OF LEGAL HOLIDAYS ALTERNATE II (OCT 2000)
1852.242-78	APR 2001	EMERGENCY MEDICAL SERVICES AND EVACUATION

(End of Clause)

### **H.2 Key Personnel And Facilities (NFS 1852.235-71) (MAR 1989)**

(a) The personnel and/or facilities listed below (or specified in the contract Schedule) are considered essential to the work being performed under this contract. Before removing, replacing, or diverting any of the listed or specified personnel or facilities, the Contractor shall (1) notify the Contracting Officer reasonably in advance and (2) submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this contract.

(b) The Contractor shall make no diversion without the Contracting Officer's written consent; provided, that the Contracting Officer may ratify in writing the proposed change, and that ratification shall constitute the Contracting Officer's consent required by this clause.

(c) The list of personnel and/or facilities (shown below or as specified in the contract Schedule) may, with the consent of the contracting parties, be amended from time to time during the course of the contract to add or delete personnel and/or facilities.

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(End of Clause)

#### H.3 Asbestos Material (MSFC 52.223-90) (JUN 2002)

During performance of this contract, Contractor personnel performing work in MSFC buildings may come in contact with materials containing asbestos. MSFC Buildings 4200, 4201, 4202, 4663 and 4666 are of special concern since they are known to contain a sprayed on fire insulation on or above the ceiling, usually located on the metal or concrete structure of the buildings. These buildings and all other MSFC buildings may contain asbestos in floor tile, pipe and lagging insulation, exterior siding, roofing felt, and many other building materials. Prior to disturbing suspected asbestos material in any manner, the Contractor shall notify MSFC's Occupational Medicine and Environmental Health Services, for guidance. Contractor shall be responsible for ensuring that all Contractor personnel working onsite are made aware of and comply with this clause.

(End of Clause)

#### H.4 Hazardous Material Reporting (MSFC 52.223-91) (FEB 2001)

(a) If during the performance of this contract, the Contractor brings any hazardous materials (hazardous as defined under the latest version of Federal Standard No. 313, including revisions adopted during the term of the contract) on-site to the Marshall Space Flight Center, a completed MSFC Form 4099 (MSFC Chemical Inventory Addition) shall be immediately forwarded to the address on the form. The Contractor shall be responsible for ensuring that all Contractor/subcontractor personnel are made aware of and comply with this clause.

(b) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including

the obtaining of licenses and permits) in connection with hazardous material; or with other clauses regarding hazardous materials, which may be contained in the contract.

(End of Clause)

### **H.5 Labor Provisions**

**Service Contract Act:** Pursuant to the requirements of the Service Contract Act of 1965, as amended, and the applicable clauses incorporated in Section I, the minimum wages to be paid service employees under this contract shall be those set forth in the Department of Labor Wage Determinations (Attachment J-10).

**NOTICE-** This solicitation and resulting contract are subject to the **statutory** provisions of the Service Contract Act of 1965, as amended, (Contract Clause 52.222-41), and the implementing regulations of the Act outlined in Title 29 Code of Federal Regulations, Part 4.

As a prospective bidder/contractor **you are liable** for the proper interpretation, application, implementation, and administration of the mandatory provisions of this Act. Therefore, it is imperative that you take appropriate action when preparing your proposal to assure compliance and **ensure** that your corporate policies are congruous with the spirit and intent of the law.

(End of Clause)

### **H.6 Export Licenses (NFS 1852.225-70)(FEB 2000)—Alternate I (FEB 2000)**

(a) The Contractor shall comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of hardware, technical data, and software, or for the provision of technical assistance.

(b) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at Marshall Space Flight Center or, at the NASA Moscow Technical Liaison Office, or at any NASA installation where the foreign person will have access to export-controlled technical data or software.

(c) The Contractor shall be responsible for all regulatory record keeping requirements associated with use of licenses and license exemptions/exceptions.

(d) The contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

(e) The Contractor may request, in writing, that the Contracting Officer authorize it to export ITAR-controlled technical data (including software) pursuant to the exemption at 22 CFR 125.4(b)(3). The Contracting Officer or designated representative may authorize or direct the use of the exemption where the data does not disclose details of the design, development, production, or manufacture of any defense article.

(End of Clause)

#### **H.7 Subcontracts**

(a) In accordance with the clause entitled "Subcontracts (Cost Reimbursement and Letter Contracts) -- Alternate I," the following classes of subcontracts are designated for special surveillance, and the Contractor shall obtain the Contracting Officer's written consent before placement:

- (1) All cost reimbursement subcontracts;
- (2) All fixed price subcontracts exceeding \$500,000 total value, including all options, if the Contractor has an approved purchasing system; and,
- (3) All fixed price subcontracts exceeding \$100,000 total value, including all options, if the Contractor does not have an approved purchasing system.

(b) In conducting procurements for IT resources, the Contractor shall comply with the acquisition planning, publication, and competition requirements as generally set forth in the Federal Acquisition Regulation (FAR), Parts 6 and 39. Before issuing a solicitation for any IT resource procurement estimated to exceed \$2,500,000 in total value, the Contractor shall obtain the Contracting Officer's prior written consent to proceed with the procurement.

(c) All subcontracts shall be in the name of the contractor and shall not bind nor purport to bind the Government in any manner.

(End of Clause)

#### **H.8 Excluded Functions and Responsibilities**

Functions and responsibilities directly involved or associated with the management of any NASA laboratory or office are expressly excluded from this contract. Any instructions, directives, or orders issued under this contract involving such NASA management functions and responsibilities shall be null and void. The following activities are representative of the excluded functions and responsibilities that cannot be provided by the Contractor for the Government:

- Policy-making or management of NASA operations;
- NASA Program or project management;
- Technical management of Government contracts;
- NASA management planning, programming, budgeting, review, and analysis;
- Government purchasing, contracting, contract administration, acceptance of materials and/or performance, and pay and accounting therefore;
- Direction or supervision of other Government Contractors or Government agencies, or otherwise acting as an agent to obligate or commit NASA in any capacity;
- Clerical and other administration-type functions required to be performed by civil service personnel; and
- Supervision of Government employees.

(End of Clause)

#### **H.9 Applicability Of Section Clauses To Subcontracts**

In the event the Contractor enters into subcontract(s) for performance of any of the services required under the Performance Work Statement of this contract, the Contractor hereby agrees that, in addition to all other requirements, the intent and purpose of the following contract clauses will be incorporated in any such subcontract(s) where the type of subcontract, or work to be performed, could make the clause applicable. All other appropriate clauses shall also be included in any subcontract as deemed appropriate.

- B.5 Premium for Scheduled Overtime
- B.11 Contract Extension Resulting from Protests
  - E.1 Inspection of Supplies -- Cost Reimbursement
  - Inspection of Services -- Cost Reimbursement
  - F.3 Option to Extend the Term of the Contract
  - G.1 Patent Rights—Retention By The Contractor (Short Form)
  - NASA Contractor Financial Management Reporting
  - G.3 Designation of New Technology Representative and Patent Representative
  - G.6 List of Installation-Accountable Property and Services
  - G.7 Financial Reporting of NASA Property in the Custody of Contractors
  - G.8 List Of Government-Furnished Property
  - G.9 Contractor Employee Badging and Employment Termination Clearance

- G.10 Statement of Equivalent Rates for Federal Hires
- H.1 Restrictions on Printing and Duplicating
  - Safety and Health
  - Observance of Legal Holidays
  - Emergency Medical Services and Evacuation
- H.3 Asbestos Material
- H.4 Hazardous Material Reporting
- H.5 Labor Provisions
- H.6 Export Licenses
- H.8 Excluded Functions and Responsibility
- H.10 Safety Performance Evaluation

(End of Clause)

#### **H.10 Safety Performance Evaluation**

Safety Performance Evaluation Criteria per MPG 8715.1, Marshall Safety, Health, and Environmental (SHE) Program:

#### **EVALUATION CRITERIA**

##### **MSFC SHE Program Elements – 5 Core Program Requirements (CPR)**

- CPR 1 - Management Commitment and Employee Involvement
- CPR 2 - System and Worksite Hazard Analysis
- CPR 3 - Hazard Prevention and Control
- CPR 4 - Safety and Health Training
- CPR 5 - Environmental Compliance

**1. Contractor Responsibility.** The Contractor is responsible for maintaining an effective safety program during the course of the contract with a goal to achieve a world-class program within the term of the contract. The Contractor will ensure that the requirements of the MSFC approved Contractor's Safety and Health Plan and applicable Data Requirement Documents (DRD) are met. Contractor safety performance evaluation will be based on the MSFC safety program elements. The Contractor shall conduct a quarterly self-evaluation based on these criteria.

**2. Evaluation Criteria.** Contractor self-evaluation and Government validation will be based on the applicable elements and sub-elements of the MSFC safety program stated in MPG 8715.1. Specific criteria are shown on the matrix entitled "Safety Health Management Implementation Guide and Assessment Matrix." The Contractor shall score themselves from 0 to 10 points for each element and add them for a total score. Deviations from the matrix criteria may be made, for cause, and must be approved by the COTR, CO and Government Safety Representative. It should be noted that Element 1 has a management and an employee component. These are simply averaged to obtain the score for Element 1. The result should be carried to the second decimal point.

**3. Performance Recognition.** Contractor performance will be recognized as follows:

Score	≥ 36 points (Annual Score)	≥ 28 points (Annual Score)	≤ 16 points (Quarterly Score)
<b>LTIR</b>	<u>And</u> ≤ 50% of the LTIR for the applicable SIC rate <b>Exception:</b> Contractors with less than 100 employees located onsite MSFC shall have <u>no</u> lost time injuries during the past year.	<u>And</u> < the applicable SIC rate <b>Exception:</b> Contractors with less than 100 employees located onsite MSFC shall have <u>no more than one</u> lost time injury during the past year.	<u>Or</u> > the applicable SIC rate <b>Exception:</b> Contractors with less than 100 employees located onsite MSFC. A Level III rating will be given when <u>greater than two</u> lost time injuries are reported during the past year.
<b>Grade Levels</b>	<b>I</b>	<b>II</b>	<b>III</b>
<b>Recognition</b>	Formal award publicly recognized. Appropriate Past Performance referrals provided.	Formal letter of commendation – will impact contract evaluation and past performance. (Score must either be the same score or and higher from the last evaluation.)	Formal letter expressing concern. Corrective Action Plan requested. Data placed in Past Performance Database. <b>Failure to improve could result in Contract Options not being exercised.</b>

**NOTES:**

If the contractor's safety performance evaluation does not fall within one of the above categories, no recognition will be provided.

Failure to report information on all personnel and property mishaps that meet the criteria of a NASA Recordable Mishap (NPG 8621.1), on a monthly basis, will result in a deduction of \$1,000 for each occurrence of failure to report. Information to be reported includes items listed in paragraph 6 of the clause.

The most current Department of Labor SIC rate, effective at the beginning of the annual evaluation period, will be utilized for LTIR evaluation. Lost Time Incidents shall be recorded in accordance with NASA requirements specified in MWI 8621.1, "Close Call and Mishap Reporting and Investigation Program." Final decisions on any disputed lost time injury determinations will be handled by established Government regulatory procedures.



**4. Contractor Accountability For Mishaps.** The Contractor shall not be held accountable for injuries to their personnel, or damage to the property they control that is caused by individuals or situations clearly outside the control of their contract.

**5. Evaluation Process.** The evaluation process will be based on the major elements and their sub-elements cited in Paragraph 2.

The evaluation process will include these steps:

- Contractor to conduct quarterly self-assessment and assign numerical score to each element.
- Contractor self-assessments will address compliance with their approved Safety and Health Plan.
- Contractor to have self-assessment validated by CO/COTR and S&MA Office.
- On an annual basis, the Contracting Officer will apply contract incentives/recognition or consequences based on the average quarterly scores. The Contracting Officer will make a determination on a quarterly basis for items requested in paragraph 6 that are not reported. (Also, see paragraph 7 below.)

The evaluation process will use the Safety Health Management Implementation Guide and Assessment Matrix in the Table at the end of this Section.

**6. Safety Metric Reporting.** The Contractor shall utilize MSFC Form 4371 to submit, on a monthly basis, information on all personnel and property mishaps that meet the criteria of a NASA Recordable Mishap (NPG 8621.1). Close calls and minor cases, including first aid and non-injury cases, shall be reported when there is a potential lessons learned or when action needs to be taken to prevent more serious damage, loss, or personal injury, (including communication of the incident to promote employee awareness). The report shall also include total hours worked and the number of safety inspections and safety meetings conducted during the month.

The Contractor shall also utilize NASA Form 1627 to include details of any mishap, results of the investigation, and the corrective action plan.

**7. Failure To Report.** If the Contractor fails to report the items in paragraph 6 above in accordance with this contract, an amount of \$1,000 will be deducted for each occurrence of failure to report the required data.



Safety Health Management Implementation Guide and Assessment Matrix

Score	Commitment and Involvement (Element 1)		Worksite System and Analysis (Element 2)	Hazard Prevention and Control (Element 3)	Safety and Health Training (Element 4)
	A. Management	B. Employee			
10	Benchmarking indicates "best in class." In areas of visible management leadership, responsibility/accountability, meaningful metrics, and incentive/recognition systems.	Employees fully involved, safety committees functioning well, is a complete behavior process functioning at least one year, employees involved in process planning and risk assessment.	All subelements fully in place and functioning well for at least one year.	All programs and subelements Strong professional support.	All training processes functioning, all levels of personnel trained to identified needs, management training ongoing.
9	All subelements are in place and functioning well, but have as yet to reach full maturity.	All processes functioning but for limited time, employees involved to great extent.	All subelements in place, employees actively participating.	All programs and subelements in place and functioning.	All training processes established, management initial training complete.
8	One subelement not fully in place but all are being implemented.	Most processes in place, employee involvement growing.	All subelements functioning, employee participation growing.	At least five subelements stage of implementation.	Most personnel trained to identified needs, training recordkeeping and recall system functioning.
7	Two subelements not fully implemented. Implementation in process on all elements. Employee participation and commitment widespread.	Process activities expanding through organization. Committees and teams functioning.	At least five subelements established.	At least four subelements developing.	Management and supervisor training in process, specialized training in process.
6	All subelements in process or in place. Strong management leadership and commitment begun, metric systems in place, resourcing appropriate.	Employee representatives functioning, joint committees functioning, participating in risk assessment and accident investigation.	At least four subelements functioning and remaining three in process, employee participation beginning to spread through organization.	Medical and safety programs strengthened. Emergency preparedness program established and exercised.	Management training in process developed, supervisor training developed, training recordkeeping and recall system developed.
5	Management commitment and leadership accepted by workers, worker participation and commitment begun, metric system.	Employee representatives appointed/elected, committees beginning to perform functions (investigation, analysis, process improvement).	All subelements established, employees beginning to participate.	Rules written, medical and safety programs developing adequate.	Training template completed for all personnel, training needs identified, process development begun, recordkeeping and recall system being developed.
4	Management commitment and leadership flowing down to workers, incentive/recognition system in process.	All processes being established, involvement and awareness enhancement growing.	At least five subelements initiated including self-assessment, hazard reporting, mishap close call investigations.	Rules in process, emergency preparedness program being developed.	Training development in process, specialized training established. Mandatory training in process.
3	Generally good management commitment and leadership, implementation plans approved for all elements.	All process needs identified, awareness and involvement enhancement activities begun.	Job Hazard analysis established, investigations strengthened and include employees.	Medical program initiated, safety and health program initiated.	Training needs evaluation complete, training templates in process, recordkeeping and recall system needs to be established.
2	Management exhibits some aspects of leadership, accountability systems not well defined, employee participation framework defined, limited metrics.	Committees established, little activity, employee involvement beginning, awareness of process started.	Plans established to implement all subelements, at least two subelements beginning to function.	Personal protective equipment requirements established and being enforced, plans developed for other elements.	Training needs evaluation begun, training template forms developed.
1	Subelements have not been established to any significant extent, management leadership is lacking, little or no employee participation.	No committees, little or no employee involvement, no process, little process planning.	Two or fewer subelements established, no self-inspection, shallow accident investigation process.	Few or no programs or written rules, limited enforcement.	Training needs not established, no management training, limited or no supervisor training.

Safety Health Management Implementation Guide and Assessment Matrix

NNM04AA07C

SECTION H

(End of Clause)

[END OF SECTION]

## PART II - CONTRACT CLAUSES

### SECTION I - CONTRACT CLAUSES

#### I.1 Listing Of Clauses Incorporated By Reference

NOTICE: The following contract clauses pertinent to this section are hereby incorporated by reference:

#### I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
52.202-1	DEC 2001	DEFINITIONS
52.203-3	APR 1984	GRATUITIES
52.203-5	APR 1984	COVENANT AGAINST CONTINGENT FEES
52.203-6	JUL 1995	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT
52.203-7	JUL 1995	ANTI-KICKBACK PROCEDURES
52.203-8	JAN 1997	CANCELLATION, RESCISSION AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-10	JAN 1997	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-12	JUN 1997	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS
52.204-2	AUG 1996	SECURITY REQUIREMENTS
52.204-4	AUG 2000	PRINTED OR COPIED, DOUBLE-SIDED ON RECYCLED PAPER
52.209-6	JUL 1995	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT
52.215-2	JUN 1999	AUDIT AND RECORDS--NEGOTIATION
52.215-8	OCT 1997	ORDER OF PRECEDENCE - UNIFORM CONTRACT FORMAT
52.215-10	OCT 1997	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA
52.215-11	OCT 1997	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--MODIFICATIONS
52.215-12	OCT 1997	SUBCONTRACTOR COST OR PRICING DATA

52.215-13	OCT 1997	SUBCONTRACTOR COST OR PRICING DATA-- MODIFICATIONS
52.215-14	OCT 1997	INTEGRITY OF UNIT PRICES
52.215-15	DEC 1998	PENSION ADJUSTMENTS AND ASSET REVERSIONS
52.215-18	OCT 1997	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS
52.215-19	OCT 1997	NOTIFICATION OF OWNERSHIP CHANGES
52.215-21	OCT 1997	REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA -- MODIFICATIONS
52.216-7	APR 1998	ALLOWABLE COST AND PAYMENT
52.217-2	OCT 1997	CANCELLATION UNDER MULTIYEAR CONTRACTS
52.217-8	NOV 1999	OPTION TO EXTEND SERVICES
52.219-6	JUL 1996	NOTICE OF TOTAL SMALL BUSINESS SET- ASIDE
52.219-8	OCT 2000	UTILIZATION OF SMALL BUSINESS CONCERNS
52.219-14	DEC 1996	LIMITATION ON SUBCONTRACTING
52.222-1	FEB 1997	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES
52.222-2	JUL 1990	PAYMENT FOR OVERTIME PREMIUMS
	Insert "\$ See Section B " in paragraph (a) .	
52.222-3	AUG 1996	CONVICT LABOR
52.222-19	SEP 2002	CHILD LABOR-COOPERATION WITH AUTHORITIES AND REMEDIES
52.222-21	FEB 1999	PROHIBITION OF SEGREGATED FACILITIES
52.222-37	DEC 2001	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS
52.222-41	MAY 1989	SERVICE CONTRACT ACT OF 1965, AS AMENDED
52.223-6	MAY 2001	DRUG-FREE WORKPLACE
52.223-10	AUG 2000	WASTE REDUCTION PROGRAM
52.225-1	MAY 2002	BUY AMERICAN ACT-SUPPLIES
52.225-13	JUL 2000	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES
52.227-1	JUL 1995	AUTHORIZATION AND CONSENT
52.227-2	AUG 1996	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
52.227-14	JUN 1987	RIGHTS IN DATA--GENERAL As modified by 1852.227-14 NASA FAR Supplement (OCT 1995)
52.227-16	JUN 1987	ADDITIONAL DATA REQUIREMENTS
52.228-7	MAR 1996	INSURANCE--LIABILITY TO THIRD PERSONS
52.232-9	APR 1984	LIMITATION ON WITHHOLDING OF PAYMENTS
52.232-17	JUN 1996	INTEREST
52.232-22	APR 1984	LIMITATION OF FUNDS
52.232-23	JAN 1986	ASSIGNMENT OF CLAIMS
52.232-25	FEB 2002	PROMPT PAYMENT (ALTERNATE I) (FEB 2002)

52.232-34	MAY 1999	PAYMENT BY ELECTRONIC FUNDS TRANSFER - OTHER THAN CENTRAL CONTRACTOR REGISTRATION
52.233-1	JUL 2002	DISPUTES
52.233-3	AUG 1996	PROTEST AFTER AWARD (ALTERNATE I) (JUN 1985)
52.237-2	APR 1984	PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION
52.237-3	JAN 1991	CONTINUITY OF SERVICES
52.242-1	APR 1984	NOTICE OF INTENT TO DISALLOW COSTS
52.242-3	MAY 2001	PENALTIES FOR UNALLOWABLE COSTS
52.242-4	JAN 1997	CERTIFICATION OF FINAL INDIRECT COSTS
52.242-10	APR 1984	F.O.B. ORIGIN--GOVERNMENT BILLS OF LADING OR PREPAID POSTAGE
52.242-13	JUL 1995	BANKRUPTCY
52.243-2	AUG 1987	CHANGES--COST-REIMBURSEMENT (ALTERNATE I) (APR 1984)
52.244-2	AUG 1998	SUBCONTRACTS (ALTERNATE I) (AUG 1998)
52.244-5	DEC 1996	COMPETITION IN SUBCONTRACTING
52.245-5	JAN 1986	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS)
52.246-25	FEB 1997	LIMITATION OF LIABILITY-SERVICES
52.247-1	APR 1984	COMMERCIAL BILL OF LADING NOTATIONS
52.248-1	FEB 2000	VALUE ENGINEERING
52.249-6	SEP 1996	TERMINATION (COST-REIMBURSEMENT)
52.249-14	APR 1984	EXCUSABLE DELAYS
52.251-1	APR 1984	GOVERNMENT SUPPLY SOURCES
52.253-1	JAN 1991	COMPUTER GENERATED FORMS

## II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

CLAUSE NUMBER	DATE	TITLE
1852.204-76	JUL 2002	SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION TECHNOLOGY RESOURCES
1852.216-89	JUL 1997	ASSIGNMENT AND RELEASE FORMS
1852.219-74	SEP 1990	USE OF RURAL AREA SMALL BUSINESSES
1852.219-76	JUL 1997	NASA 8 PERCENT GOAL

(End of Clause)

### I.2 Approval Of Contract (FAR 52.204-1) (DEC 1989)

This contract is subject to the written approval of the MSFC Procurement Officer and shall not be binding until so approved.

(End of Clause)

**I.3 Equal Opportunity (FAR 52.222-26) (APR 2002) (Alternate I) (FEB 1999)**

Notice: The following terms of this clause are waived for this contract:     TBD      
[Contracting Officer shall list terms].

(a) Definition. "United States," as used in this clause, means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of \$10,000, the Contractor shall comply with paragraphs (b)(1) through (b)(11) of this clause, except for work performed outside the United States by employees who were not recruited within the United States. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to--

- (i) Employment;
- (ii) Upgrading;
- (iii) Demotion;
- (iv) Transfer;
- (v) Recruitment or recruitment advertising;
- (vi) Layoff or termination;
- (vii) Rates of pay or other forms of compensation; and
- (viii) Selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's

commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the Contracting Officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance, provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

(End of Clause)



**I.4 Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (FAR 52.222-35) (DEC 2001) (Alternate I) (DEC 2001)**

Notice: The following term(s) of this clause are waived for this contract:

\_\_\_\_\_ [List term(s)].

(a) Definitions. As used in this clause-

"All employment openings" means all positions except executive and top management, those positions that will be filled from within the Contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days duration, and part-time employment.

"Executive and top management" means any employee-

- (1) Whose primary duty consists of the management of the enterprise in which the individual is employed or of a customarily recognized department or subdivision thereof;
- (2) Who customarily and regularly directs the work of two or more other employees;
- (3) Who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any other change of status of other employees will be given particular weight;
- (4) Who customarily and regularly exercises discretionary powers; and
- (5) Who does not devote more than 20 percent or, in the case of an employee of a retail or service establishment, who does not devote more than 40 percent of total hours of work in the work week to activities that are not directly and closely related to the performance of the work described in paragraphs (1) through (4) of this definition. This paragraph (5) does not apply in the case of an employee who is in sole charge of an establishment or a physically separated branch establishment, or who owns at least a 20 percent interest in the enterprise in which the individual is employed.

"Other eligible veteran" means any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

"Positions that will be filled from within the Contractor's organization" means employment openings for which the Contractor will give no consideration to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings the Contractor proposes to fill from regularly established "recall" lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of its organization.



**"Qualified special disabled veteran" means a special disabled veteran who satisfies the requisite skill, experience, education, and other job-related requirements of the employment position such veteran holds or desires, and who, with or without reasonable accommodation, can perform the essential functions of such position.**

**"Special disabled veteran" means-**

**(1) A veteran who is entitled to compensation (or who but for the receipt of military retired pay would be entitled to compensation) under laws administered by the Department of Veterans Affairs for a disability-**

**(i) Rated at 30 percent or more; or**

**(ii) Rated at 10 or 20 percent in the case of a veteran who has been determined under 38 U.S.C. 3106 to have a serious employment handicap (i.e., a significant impairment of the veteran's ability to prepare for, obtain, or retain employment consistent with the veteran's abilities, aptitudes, and interests); or**

**(2) A person who was discharged or released from active duty because of a service-connected disability.**

**"Veteran of the Vietnam era" means a person who-**

**(1) Served on active duty for a period of more than 180 days and was discharged or released from active duty with other than a dishonorable discharge, if any part of such active duty occurred-**

**(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or**

**(ii) Between August 5, 1964, and May 7, 1975, in all other cases; or**

**(2) Was discharged or released from active duty for a service-connected disability if any part of the active duty was performed-**

**(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or**

**(ii) Between August 5, 1964, and May 7, 1975, in all other cases.**

**(b) General.**

**(1) The Contractor shall not discriminate against the individual because the individual is a special disabled veteran, a veteran of the Vietnam era, or other eligible veteran, regarding any position for which the employee or applicant for employment is qualified. The Contractor shall take affirmative action to employ, advance in employment, and otherwise treat qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans without discrimination based upon their disability or veterans' status in all employment practices such as-**

**(i) Recruitment, advertising, and job application procedures;**

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff and rehiring;

(iii) Rate of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeship, and on-the-job training under 38 U.S.C. 3687, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor shall comply with the rules, regulations, and relevant orders of the Secretary of Labor issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended (38 U.S.C. 4211 and 4212).

**(c) Listing openings.**

(1) The Contractor shall immediately list all employment openings that exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract, and including those occurring at an establishment of the Contractor other than the one where the contract is being performed, but excluding those of independently operated corporate affiliates, at an appropriate local public employment service office of the State wherein the opening occurs. Listing employment openings with the U.S. Department of Labor's America's Job Bank shall satisfy the requirement to list jobs with the local employment service office.

(2) The Contractor shall make the listing of employment openings with the local employment service office at least concurrently with using any other recruitment source or effort and shall involve the normal obligations of placing a bona fide job order, including accepting referrals of veterans and non-veterans. This listing of employment openings does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(3) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State public employment agency in each State where it has establishments of the

name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State agency, it need not advise the State agency of subsequent contracts. The Contractor may advise the State agency when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, Guam, the Virgin Islands of the United States, and Wake Island.

(e) Postings.

(1) The Contractor shall post employment notices in conspicuous places that are available to employees and applicants for employment.

(2) The employment notices shall-

(i) State the rights of applicants and employees as well as the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified employees and applicants who are special disabled veterans, veterans of the Vietnam era, and other eligible veterans; and

(ii) Be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary of Labor), and provided by or through the Contracting Officer.

(3) The Contractor shall ensure that applicants or employees who are special disabled veterans are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled veteran, or may lower the posted notice so that it can be read by a person in a wheelchair).

(4) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement, or other contract understanding, that the Contractor is bound by the terms of the Act and is committed to take affirmative action to employ, and advance in employment, qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, the Government may take appropriate actions under the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(g) Subcontracts. The Contractor shall insert the terms of this clause in all subcontracts or purchase orders of \$25,000 or more unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Deputy Assistant Secretary of Labor to enforce the terms, including action for noncompliance.

(End of Clause)

**I.5 Affirmative Action For Workers With Disabilities (FAR 52.222-36) (JUN 1998)**  
**Alternate I (JUN 1998)**

Notice: The following term(s) of this clause are waived for this contract: \_\_\_\_\_ [List term(s)].

**(a) General.**

(1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

- (i) Recruitment, advertising, and job application procedures;
- (ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff, and rehiring;
- (iii) Rates of pay or any other form of compensation and changes in compensation;
- (iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;
- (v) Leaves of absence, sick leave, or any other leave;
- (vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;
- (vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;
- (viii) Activities sponsored by the Contractor, including social or recreational programs; and
- (ix) Any other term, condition, or privilege of employment.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793 (the Act)), as amended.

**(b) Postings.**

- (1) The Contractor agrees to post employment notices stating--
  - (i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance.

If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts.

The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of \$10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of Clause)

#### **I.6 Taxes—Foreign Cost-Reimbursement Contracts (FAR 52.229-8) (MAR 1990)**

(a) Any tax or duty from which the United States Government is exempt by agreement with the Government of \_\_\_\_ TBD \_\_\_\_, or from which the Contractor or any subcontractor under this contract is exempt under the laws of \_\_\_\_ TBD \_\_\_\_, shall not constitute an allowable cost under this contract.

(b) If the Contractor or subcontractor under this contract obtains a foreign tax credit that reduces its Federal income tax liability under the United States Internal Revenue Code (Title 26, U.S. Code) because of the payment of any tax or duty that was reimbursed under this contract, the amount of the reduction shall be paid or credited at the time of such offset to the Government of the United States as the Contracting Officer directs.

(End-Of-Clause)

**I.7 Clauses Incorporated By Reference (FAR 52.252-2) (FEB 1998)**

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at these addresses:

<<http://www.arnet.gov/far/>>

<<http://www.hq.nasa.gov/office/procurement/regs/nfstoc.htm>>

(End of Clause)

**I.8 Ombudsman (NFS 1852.215-84) (JUN 2000) (Alternate I) (JUN 2000)**

(a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and contractors during the pre-award and post-award phases of this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman is not to diminish the authority of the contracting officer, the Source Evaluation Board, or the selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the contracting officer for resolution.

(b) If resolution cannot be made by the contracting officer, interested parties may contact the installation ombudsman,

Axel Roth  
National Aeronautics and Space Administration  
George C. Marshall Space Flight Center/DE01  
Marshall Space Flight Center, AL 35812

Telephone number: (256) 544-0451  
Facsimile number: (256) 544-5590  
E-mail address: Axel.Roth@msfc.nasa.gov

Concerns, issues, disagreements, and recommendations which cannot be resolved at the installation may be referred to the NASA ombudsman, the Director of the Contract Management Division, at 202-358-0422, facsimile 202-358-3083, e-mail sthompson1@hq.nasa.gov. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the contracting officer or as specified elsewhere in this document.

(c) If this is a task or delivery order contract, the ombudsman shall review complaints from contractors and ensure they are afforded a fair opportunity to be considered, consistent with the procedures of the contract.

(End of Clause)

**I.9 Representations, Certifications, And Other Statements Of Offerors Or Quoters  
Incorporated By Reference (MSFC 52.252-90) (FEB 2001)**

The Representations, Certifications, and Other Statements of Offerors or Quoters (Section K of the solicitation document) as completed by the Contractor are hereby incorporated in their entirety by reference, with the same force and effect as if they were given in full text.

(End of Clause)

[END OF SECTION]

**PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS**

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**SECTION J - LIST OF ATTACHMENTS**

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<u>Attachments</u>	<u>Title</u>	<u>Pages</u>
J-1	Performance Work Statement	28
J-2	Data Procurement Document	39
J-3	Applicable Regulations and Procedures	3
J-4	Acronyms and Abbreviations	11
J-5	Government Furnished Property	74
J-6	Work Breakdown Structure	2
J-7	Fee Evaluation Plans	6
J-8	Installation-Provided Property and Services	2
J-9	Reserved	0
J-10	SCA Wage Determination	10
J-11	Marshall Values	1



**ATTACHMENT J-1****PERFORMANCE WORK STATEMENT (PWS)****1.0 General**

This Performance Work Statement is divided into four paragraphs. Paragraph 1.0 introduces the PWS and provides a background of the HOSC and its related facilities. Paragraph 2.0 describes all management functions required which are applied to the programs and projects supported by the HOSC. Paragraphs 3.0 and 4.0 describe the engineering and operations services, respectively, to be applied to the programs and projects supported by the HOSC.

The principal place of performance of these activities is Marshall Space Flight Center (MSFC) located in Huntsville, Alabama. MSFC is a tenant to the U.S. Army on Redstone Arsenal. The HOSC is located within building 4663, which is at the corner of Martin Road and Dodd Road. All operational activity is located in buildings 4663 and 4207, the HOSC annex. The contractor will be provided office and general engineering space, as required, within building 4663 or at other locations at MSFC.

The HOSC provides multi-program facilities, systems, and services, both local and remote, which support various mission phases of spacecraft payload and Shuttle propulsion systems operations. Programs currently supported by the HOSC include the Space Shuttle, the International Space Station (ISS), the Chandra X-Ray Observatory (CXO) and the MSFC Microgravity Telescience Support Center (TSC). The HOSC services are scalable to support additional programs.

The HOSC has the capability to support all phases of missions including planning, testing, simulations, pre-launch, launch, and all aspects of payload flight operations, as required by the various programs.

The contractor's mission is to provide Operations and Maintenance (O&M) and system development services to meet the requirements of the Flight Projects Directorate (FPD), Ground Systems Department (GSD) and its customers. The requirements defined in this PWS are for the HOSC and its related facilities and systems. Customers may be on-site, off-site, or at international locations.

The product-oriented development activities involved in this contract encompass all aspects of the entire life-cycle of ground systems development. Typical activities include: requirements definition, analysis and documentation; configuration management; systems, hardware, software and network engineering; technology transfer; and design, development, test, and delivery.

The service-oriented maintenance and operations activities include: sustaining engineering of developed systems at both local and remote locations; activity preparation and simulation; flight evaluation activities; hardware and software maintenance; systems

and facilities operations; data collection, processing, distribution, and archiving; validation and verification of data products and systems; and maintenance and operations of all systems.

For the purpose of this PWS, the customer is defined as the end-user of the services described. A GSD customer may be an organization such as a NASA program, project office, staff office, National Aeronautics and Space Administration (NASA) contractor, payload developer, school, international partner or an individual within these organizations.

## **2.0 Management**

The overall contractor program management responsibilities for the services and functions addressed in this PWS are exercised through the contractor management structure. The contractor shall be responsible for implementing, managing, measuring, and participating, in all internal and external processes necessary for the adequate execution of the activities described in this PWS. The contractor shall be governed by the processes defined within the Marshall Management System and the cited NASA Policy Directives (NPDs), NASA Procedures and Guidelines (NPGs), Marshall Policy Directives (MPDs), Marshall Procedures and Guidelines (MPGs), Marshall Work Instructions (MWIs), and the Flight Projects Directorate (FPD) Organizational Issuances (OIs). The Marshall Management System is documented in MPD1280.1, Marshall Management Manual.

The Marshall Space Flight Center's commitment to Safety, Quality, and Management by Core Values is the foundation for the MSFC culture. The contractor is expected to embrace, and operate within, these values while performing the work defined in this PWS. As a result of this commitment, Marshall has established and manages by a MSFC Safety, Health, and Environmental (SHE) Policy, a Quality Policy, and the Core Values of People, Customers, Excellence, Teamwork, and Innovation. Further definition of the Core Values is contained in Attachment J-11, Marshall Values.

The MSFC SHE Policy, is:

**SAFETY:** MSFC will strive to prevent human injury and occupational illnesses and ensure safety for all operations and products.

**HEALTH:** It is MSFC's policy to promote and maintain the physical and mental well-being of its employees.

**ENVIRONMENTAL:** MSFC will strive to protect, preserve, and enhance the quality of the environment while conducting their primary mission activities.

The Marshall Quality Policy is to provide quality products and services to our customers through the Marshall values: people, customers, excellence, teamwork, and innovation.

## 2.1 Contract Management

The contractor shall provide, implement and maintain the requisite organization, disciplines and systems necessary to manage the personnel and resources required for the performance of these functions. These functions shall be applied to the HOSC programs and projects commensurate to the level and complexity of activity. These management services shall be applied to the programmatic requirements of MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan.

The contractor shall ensure that HOSC and related facilities capabilities and configurations fully support mission operations and development objectives in accordance with the HOSC-PLAN-623, HOSC Project Plan. The contractor shall develop, implement, maintain and operate systems for planning, scheduling, controlling and reporting all HOSC services and functions and for analyzing and reporting contract performance. In performance of program management, the contractor shall:

- a. Prepare and maintain a Management Plan for the contracted effort in accordance with DRD 1016MA-001, Management Plan.
- b. Prepare and maintain locality information listing, including number of personnel on-site and their designated location. The list shall include information in accordance with DRD 1016CD-002, Employee Location Listing.
- c. Develop and maintain project, system, and facility schedules and staffing plans.
- d. Prepare and submit for approval, as required, status reports, metrics data, documentation, etc. as required by DRD 1016MA-003, Progress Reports.
- e. Provide necessary software and system development tools including hardware necessary to provide cost efficient development and operations.
- f. Provide training of personnel supporting HOSC mission operations in accordance with HOSC-PLAN-209, Integrated Support Team (IST) Training Plan. These activities shall ensure the technical competence of personnel assigned to mission support positions and their ability to perform in a mission support environment. The contractor shall provide training in support of engineering and software design and development activities.
- g. Provide, implement, and maintain adequate controls including contractor policies and procedures governing standards of conduct, procurement processes and practices, and prevention of waste, fraud, and mismanagement.
- h. Provide for travel to complete assigned tasks. The contractor shall provide for travel to attend training classes, to provide off-site system support, to participate in analysis at other facilities and in support of other engineering, design and development activities at remote sites.

The overall MSFC program management responsibilities for the services and functions addressed in this PWS are exercised through the established responsibility and authority of the Contracting Officer and the Contracting Officer's Technical Representative (COTR).

## 2.2 Business Management

The contractor shall provide all aspects of business management to this contract. These include finance, personnel, clerical and planning. The contractor shall prepare, implement, and maintain a Work Breakdown Structure and Dictionary in accordance with DRD 1016MA-004, Work Breakdown Structure and Dictionary. The contractor shall provide planning, tracking, accumulating and reporting contract costs and provide other financial support required to meet the budgeting, cost reporting, billing and disclosure requirements of the contract in accordance with NPG 9501.2, NASA Contractor Financial Management Reporting. In performance of this function, the contractor shall provide, implement and maintain a cost accounting system. The system shall be fully integrated and shall provide status of committed, obligated, costed, and disbursed funds. The contractor shall provide projections and tracking of negotiated and accrued costs, and labor hours by NASA Financial Classification System. The contractor shall prepare inputs for program/project budget cycles and processes and prepare and submit Financial Management Reports in accordance with DRD 1016MA-002. The contractor shall provide cost analysis and assessments in support of all activities of the PWS.

## 2.3 Procurement

The contractor shall provide the equipment, software, upgrades, tools and materials, not otherwise furnished by the government, necessary to complete assigned tasks, in support of HOSC operations and development. In performance of procurement functions, the contractor shall provide all aspects of the procurement processes in compliance with applicable Federal Acquisition Regulations (FAR) and NASA FAR supplements (NFS). The contractor shall provide all supplies and services not otherwise furnished by the government.

The contractor shall provide status of individual procurements and purchase orders. The contractor shall provide purchase planning in accordance with FPD-OI-FD40.11, Ground Systems Department Purchasing Planning.

## 2.4 Property Management and Coordination

The contractor shall perform property management and administration of all property acquired by, or in possession of, the contractor and subcontractors including Government Furnished Property (GFP) in accordance with MPG 4000.2 MSFC Property Management. The contractor shall coordinate and comply with all MSFC property rules and regulations to include audits and inventories. In performance of this function, the contractor shall prepare and maintain a report identifying and listing all equipment, tools, etc., provided by the Government for use by the contractor in the performance of contracted effort, and for which the contractor has been given physical custody. This report shall be prepared and maintained in accordance with DRD 1016LS-001, Government Property Management Plan and provide logistics functions, such as packing and preparation for

shipping equipment for repair and relocating equipment to its installation point in compliance with MSFC property regulations. The contractor shall coordinate all property management functions with the cognizant MSFC property management organization.

## 2.5 IT Security and Export Control

The contractor shall provide for the collection, formulation and analysis of security requirements and the development of security plans and procedures for all systems used in the HOSC to include internal and external interfaces and networks. The contractor shall perform facility, system and personnel security in accordance with the rules, regulations, and requirements defined in NPG 2810.1 Security of Information Technology, MPD 2810.1 IT Security, and MSFC-RQMT-2467 HOSC Information Technology Security Requirements. The contractor shall prepare and maintain an Information Technology Security Plan that documents how the contractor and subcontractor personnel will utilize, in a secure manner commensurate with sensitivity of the information involved, those Federal computer systems and software applications managed by others. The contractor shall prepare a system-level Information Technology System Security Plan for each Federal general support computer system and major software application managed by contractor and subcontractor personnel in the performance of this contract. The security plan(s) shall be based on an assessment of risks, and document the safeguards necessary to ensure sufficient electronic information availability, integrity, and confidentiality, as required by NPG 2810.1. The contractor shall prepare the Information Technology Security Plan(s) in accordance with DRD 1016CD-001. The contractor shall provide Federal Information Processing (FIP) resource protection, personnel security, facility access procedures, policies and protection and the safeguarding of Privacy Act Information and proprietary data. In performance of this function, the contractor shall define and implement the Information Technology Security (ITS) plans, procedures and functions for each HOSC system necessary to provide protection of the information systems commensurate with the criticality level of the systems, applications, and data content. Also in performance of this function, the contractor shall receive, review and apply all applicable security alerts/patches for the systems in the HOSC.

Requirements for vulnerability scans on all existing and new systems connected to the HOSC networks using NASA provided software as determined by the MSFC IT Security Team are included in PWS paragraph 4.4.5, System Administration and Management.

The contractor shall coordinate IT Security Training for all the contractor employees as required by NASA/MSFC.

The contractor shall support disaster preparedness and recovery in accordance with MSFC-PLAN-2934, HOSC Emergency & Disaster Recovery Plan (EDRP). In addition, the contractor shall provide support for security incidents, internal and external audits and investigations, assessments and analysis.

The contractor shall maintain an Export Control Program in accordance with applicable government and NASA regulations, and with the policies set forth in MPD2190.1 and MPG 2190.1, MSFC Export Control Program. This Program shall include: identification of candidate exports; classification of candidate exports; identification of candidate license exceptions and exemptions; request of an export license, if required; and maintenance of records of export activities. The status of the contractor's export control activities shall be reported, as required, in routine written and oral reports.

## 2.6 Risk Management

The contractor shall implement a continuous risk management program for systems developments, operations and business following standard industry practices. Risks and the associated status shall be reported in accordance with HOSC-PLAN-635, HOSC Project Risk Management Plan. Risk mitigation activities shall be pursued to maintain safety, schedule, cost and technical performance.

## 2.7 Safety Program

The contractor shall establish and implement an industrial safety, health and environmental program and provide an On-Site Safety and Health Plan in accordance with DRD 1016SA-001. The contractor's industrial safety, health, and environmental program shall incorporate the following Safety and Health Program Core Process Requirement (CPR) elements documented in MPG 8715.1, Marshall Safety, Health, and Environmental (SHE) Program:

- a. Management commitment and employee involvement in the safety and health program.
- b. System and worksite hazard analysis.
- c. Hazard prevention and control.
- d. Safety and health training.
- e. Environmental compliance.

The contractor shall report mishaps and safety statistics to the MSFC Safety and Mission Assurance (S&MA) Office in accordance with DRD 1016SA-002.

## 2.8 Quality Management

The contractor shall establish, implement, and maintain quality assurance as a means of ensuring that products and services conform to specific requirements. The contractor shall provide quality management in accordance with HOSC-PLAN-661, HOSC Quality Plan.



## 2.9 Configuration Management (CM)

The contractor shall provide Configuration Management functions in accordance with MSFC-PLAN-2929, HOSC Configuration Management Plan. The contractor shall provide CM services to include configuration identification, change control management, and maintenance of the existing documents and software libraries under HOSC Management Control Group (HMCG) CM control as well as the management and performance of configuration audits. The contractor shall define in DRD 1016CM-001, Configuration Management Plan, the process for managing internal contractor documentation compatible with MSFC-PLAN-2929.

### 2.9.1 Hardware Systems

In performance of the hardware systems CM, the contractor shall ensure version control and definition and provide trace ability of version history. The contractor shall maintain, and improve as necessary, configuration control of the hardware supporting development or mission operations.

### 2.9.2 Software Systems

The contractor shall maintain, and improve as necessary, configuration control of the software and systems under development as well as those supporting HOSC mission operations. The contractor shall prepare software builds for integrated development testing and for delivery, and provide accessibility control, traceability of build and version history, and definition control of executable operational configurations. The contractor shall ensure that technology transfer and export documentation, rules, and regulations have been completed for each version of software and deliveries in with NASA and MSFC policies.

### 2.9.3 Data Management

The contractor shall provide data management services to include document, data, and library management, status accounting, database management and maintenance, change board administrative services and configuration of HOSC websites in accordance with MSFC-PLAN-3046, HOSC Data Management Plan.

### 2.9.4 Facilities

The contractor shall provide CM for the floor plans and other physical configuration data as described in paragraph 4.6 Facilities using the HOSC Configuration Request (HCR) process, as defined in FPD-OI-FD43.2, HOSC Configuration Request, as the principal CM tool. With Level 3 documentation, (such as the MSFC-PLAN-904 Volume 2, HOSC Functional Requirements and Implementation Plan System Configuration is impacted)

the Engineering Change Request (ECR) process as defined in HOSC-PLAN-2929, HOSC Configuration Management Plan shall be utilized.

## 2.10 Documentation Support

The contractor shall maintain, and augment as necessary, the documentation required to support all aspects of the activity under this PWS. Documentation shall be prepared in accordance with MSFC-STD-555, MSFC Engineering Documentation Standard, where applicable. Additionally, presentation services as requested shall be provided. The contractor shall provide plan and procedure development and supporting documentation for delivered and updated systems.

The contractor shall manage and coordinate changes to new or existing Memorandums of Understanding (MOU), Interface Control Documents (ICD) and any other documents that define interfaces between the HOSC and external entities. The contractor shall provide document maintenance and development services for all documents maintained by the HOSC.

## 2.11 Electronic and Information Technology Accessibility

Development and maintenance activities executed under this contract shall comply with the Federal Acquisition Circular 97-27, Electronic and Information Technology (EIT) Accessibility, Section 508 of the Rehabilitation Act of 1973 by implementing the applicable Technical Standards (Subpart B) on a case by case manner, where covered electronic and information technology be capable of having accessibility devices added at some later time, as necessary. The Desktop and Portable Computers (1194.26) Technical Standard of Section 508 shall apply.

## 2.12 Training and Certification

The contractor shall provide training of all personnel supporting HOSC mission operations in accordance with HOSC-PLAN-209, Integrated Support Team (IST) Training Plan. These activities shall ensure the technical competence of personnel assigned to mission support positions and their ability to perform in a mission support environment. The contractor shall provide training in support of engineering and software design and development activities.

## 2.13 Program Vision and Leadership

Consistent with its commitment to Management by Core Values, the Marshall Space Flight Center is committed to the continual improvement of its processes, practices, and products. The contractor is expected to embrace this commitment, and provide the



program vision and leadership required to ensure the proper focus on continual improvement and innovation. This includes innovations in management, resulting in process improvements or enhanced customer service, as well as technical innovations, resulting in increased quality or reliability of the HOSC facilities and systems. All continual improvement initiatives related to the work in this PWS shall be documented in the Ground Systems Department (FD40) Continual Improvement database.

The contractor shall provide technical information concerning any invention, discovery, improvement, or innovation made by the contractor in the performance of work under this contract. Technology Reports shall be prepared in accordance with DRD 1016CD-003.

#### **2.14 Indefinite Delivery/Indefinite Quantity (IDIQ)**

General IDIQ activities cannot be defined in advance because of the ever-changing requirements of the Center and the programs and projects supported. The level of these activities is expected to fluctuate as requirements are identified and funded. The Government will identify specific engineering, O&M, and other project-specific tasks, related to appropriate Performance Work Statement elements and respective funding limitations on a case-by-case basis.

### **3.0 Engineering**

The contractor shall develop operations concepts, systems concepts, system-level requirements, and designs for hardware, software, external interfaces, internal interfaces and operations. The contractor shall perform system requirements development, system analysis, systems integration and planning and sustaining engineering. The contractor shall develop system and software designs and provide design review support for all approved HOSC project requirements. These activities shall be performed for upgrades to existing systems, new requirements for existing systems, mission-specific requirements and new programs for HOSC systems. The contractor shall review and assess the future direction of developments to take advantage of technical innovations that would result in increased quality, reliability or customer satisfaction for the HOSC facilities and systems.

The contractor shall prepare metrics data, status reports, management reports, analysis data and other reports and data. The contractor shall support meetings as required.

#### **3.1 Engineering and Integration**

Engineering capabilities for the HOSC contract include Systems Engineering, Software Engineering, Hardware Engineering, and Network Engineering, as well as Independent Verification and Validation. Paragraphs 3.1.1 through 3.1.5 describe the specific functions to be performed for each of these engineering elements. The actual

performance of these engineering functions for each unique project is included in the project-unique requirements in Paragraphs 3.2 through 3.5.

The contractor shall develop and maintain a set of common engineering processes, procedures, and standards to be applied to HOSC projects.

The contractor shall develop the approach for systems engineering, integration, and development and report it in accordance with DRD 1016SE-001, System Development Plan.

### 3.1.1 Systems Engineering

The contractor shall perform engineering integration across all HOSC projects, to ensure the integrity and compatibility of the overall HOSC architecture. The contractor shall ensure that new projects and capabilities are effectively integrated into the existing HOSC architecture.

For Systems Engineering, the contractor shall provide the capabilities to perform the following functions:

- a. Ensure that HOSC and related facilities capabilities and configurations fully support mission operations and development objectives. Assess all HOSC related engineering change requests, maintain a current assessment of all open work on HOSC and related systems, provide systems coordination for external facilities utilizing HOSC components and architectures and maintain an official interface with HOSC customer organizations.
- b. At the systems level, develop and maintain system requirements documentation and Interface Control Documents (ICD). Perform technical analysis and assessments, hardware and software integration and testing, system change management, performance analysis, modeling and testing to ensure compliance with specifications and overall system performance. This includes the assessment of other documents that impact HOSC services and products. Participate in the CM process associated with these documents, as required, assessing impact to the HOSC products as part of the review process for these documents.
- c. Provide change package engineering services for all items requiring change board approval. These services include but are not limited to providing ECR assessment and presentation to the HOSC Management Coordination Group (HMCg) Board and providing HOSC Problem Report (HPR) assessment and resolution at the applicable HPR review board. These services shall be in accordance with the ECR process documented in MSFC-PLAN-2929, and the HPR process documented in FPD-OI-FD40.10.

- d. Define integrated system architectures and designs to meet all system requirements, and incorporate Government Furnished Property (GFP) components into system architectures and designs, when applicable.
- e. Perform system analyses, trade studies and assessments to determine options and recommendations for system capabilities, design and development.
- f. Determine system functional element interrelationships and interactions, predict system performance and compare competing design alternatives.
- g. Investigate vendor products and summarize options for make-or-buy.
- h. Perform risk assessments and define risk mitigation processes.
- i. Assess the potential usefulness of technological advances in improving efficiency and/or reducing cost.
- j. Develop and maintain hardware specifications, and develop and conduct engineering acceptance tests as required.
- k. Develop comprehensive system acquisition specifications and documents for end items and products that are to be acquired from manufacturers or vendors.
- l. Conduct system performance studies, recommending appropriate changes to eliminate potential system bottlenecks, resource conflicts and system overloads.
- m. Maintain knowledge on new and existing technologies relevant to the HOSC systems and operations.

### 3.1.2 Software Engineering

The contractor shall establish, implement, and maintain a Software Quality Assurance Program and provide a plan in accordance with DRD 1016QE-001, Software Quality Assurance Plan.

For Software Engineering, the contractor shall provide the capabilities to perform the following functions:

- a. Define and analyze detailed requirements, conduct software design and coding, conduct testing, validation and verification.
- b. Provide software cost estimation, risk analysis and life cycle analysis for new software application development.

- c. Provide sustaining engineering for all operational systems. Provide maintenance builds for flight support, for COTS upgrades, for technology upgrades, and for necessary upgrades due to COTS deficiencies. Perform software design and development to support changing ICDs, changing vehicle requirements, problems encountered during flight, and external changes to the requirements.
- d. Perform design and development activities for upgrades to existing systems, mission specific requirements, and new programs to be supported by the facilities. Deliver maintenance software builds and new software builds as specified in the build definition for each project, and be responsible for the installation and integration of developed, procured or provided systems within the facility. Perform build management functions for software deliveries to include determination of build content and schedules, and maintenance of the build definition. Build content shall be based on ECR assessment at the HOSC Management Coordination Group (HMCg) Board and upon HOSC Problem Report (HPR) assessment at the applicable HPR review board.
- e. Provide administrative support to software integration build and test activities, such as cataloging internal problem reports and code check-in documents and preparing documentation that accompanies a delivered build. Provide resource management of the computer hardware and software used by the software engineering organization for developmental integration and test and for making software builds. Establish architectures for development activities, for developmental integration and test activities and for software build activities. Prepare architectural diagrams of the development, test and integration environments.
- f. Incorporate GFP components into all system software designs, integrate and test newly developed software components with existing components, develop software prototypes required for system design or capability analysis, and ensure improvements do not adversely affect ongoing operations.
- g. Provide fault isolation, determination and analysis, and identify proposed changes.
- h. Perform software test and integration to ensure the performance and functionality of the HOSC systems on equivalent or completely operational platforms. Use software test and integration methodologies that define standards and procedures to ensure complete, consistent meeting of functional requirements. Define, develop and execute all test software and data necessary to support system and subsystem testing, and ensure the correction of any discrepancies identified during verification activities. Develop test and integration reports including impact analysis of faults found.
- i. Provide for database management to include production of specific project and mission databases.

### 3.1.3 Hardware Engineering

For Hardware Engineering, the contractor shall provide the capabilities to perform the following functions:

- a. Provide hardware engineering for all voice, video, computer, and data communications equipment utilized on this contract.
- b. Conduct system performance studies, recommending appropriate changes to eliminate potential system bottlenecks, resource conflicts, and system overloads. Perform capacity analysis of existing computational, storage and telecommunication systems and supporting resources to ensure that systems performance is compatible with specific system requirements. Provide capacity-planning recommendations based on analysis and changes in requirements and technology.
- c. Isolate problems in systems and effect proper resolution.
- d. Provide risk analysis and management that includes continual identification and assessment of technical, schedule, cost, security and organizational risks involved with the operation of systems.
- e. Perform technology assessments, system upgrade analysis and test, concept prototyping, product evaluations, and human/computer interface evaluations.

### 3.1.4 Network Engineering

For Network Engineering, the contractor shall provide the capabilities to perform the following functions:

- a. Provide network engineering services for all network equipment utilized on this contract.
- b. Provide network traffic analysis, capacity planning and network performance analysis. Manage and extend as necessary the Simple Network Management Protocol (SNMP) based monitoring and event triggering of alarms of the existing network monitoring system.
- c. Provide routing, wide area network interface and other network support required to transport data (this includes Internet Protocol (IP) telephony and packetized video as well as telemetry and other data) from and to the HOSC. This includes supporting appropriate protocols, firewalls, filters, encryption, Virtual Private Networks (VPNs) and other network-centric techniques to meet the security and interface requirements with external users/facilities.

### 3.1.5 Independent Verification and Validation (IV&V)

The contractor shall develop a verification program and document it as required by DRD 1016VR-001, Verification Plan.

For Independent Verification and Validation, the contractor shall provide the capabilities to perform the following functions:

- a. For upgrades to existing mission services and new systems, inspect, test, verify and validate that all system requirements and designs are implemented according to specification.
- b. Perform test and integration of systems to ensure the performance and functionality of the system on an equivalent or completely operational platform.
- c. Develop test plans and procedures that address both hardware and software elements, and internal and external interfaces.
- d. Develop test and integration reports including as-run procedures, test metrics and impact analysis of faults found.
- e. Ensure that Commercial Off-The-Shelf (COTS) software, both applications and operating systems, meet the HOSC-specific requirements without adversely affecting the applications or systems that will be utilized with it.
- f. Ensure that unique databases (e.g., command and/or telemetry) are compatible with the HOSC systems that require their use.

### 3.2 International Space Station (ISS) Project

The services described under this paragraph are specific to the International Space Station (ISS) project. The contractor shall perform engineering services for ISS payload operations facilities and systems. Included is the MSFC Payload Operations Center (POC). (POC and Payload Operations Integration Center (POIC) are used interchangeably throughout).

The contractor shall provide status, schedule, and metrics data in accordance with DRD 1016MA-003, Progress Reports. The contractor shall maintain a set of integrated ISS project schedules. The contractor shall provide for the collection, formulation, analysis and processing of ISS project requirements, including book manager functions for project documents.

Unless specifically noted in the respective subsequent paragraphs, the contractor shall perform System Engineering (PWS 3.1.1), Software Engineering (PWS 3.1.2), Hardware Engineering (PWS 3.1.3), Network Engineering (PWS 3.1.4), and IV&V (PWS 3.1.5) for

each of the ISS-related HOSC facilities and systems described in the sub-paragraphs of PWS paragraph 3.2.

### 3.2.1 Payload Control Facilities

The contractor shall perform sustaining engineering for the ISS payload control facilities, consisting of the Payload Operations Center POC and the United States Operations Center (USOC) per MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan, and MSFC-RQMT-1440, Generic Requirements for the Enhanced HOSC System.

### 3.2.2 Remote Services

The contractor shall provide remote data and voice services in support of ISS payload operations, including support for remote ISS Telescience Support Centers (TSC). This includes providing and sustaining programmatic interfaces for all remote services including telemetry, commanding, voice and user data system access capabilities as defined in SSP 50305, the POIC to Generic User Interface Definition Document (PGUIDD), Volumes 1 & 2. The contractor shall provide these remote services in accordance with MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan, MSFC-RQMT-1440, Generic Requirements for the Enhanced HOSC System, FPD-OI-FD40.7, Remote Servicing Plan, and MSFC-RQMT-3073, Internet Voice Distribution System (IVoDS) Document.

#### 3.2.2.1 Telescience Resource Kit (TReK)

The contractor shall perform only IV&V (PWS 3.1.5) in support of Telescience Resource Kit (TReK), to verify/validate the TReK capabilities as well as the interfaces between TReK and HOSC services.

#### 3.2.2.2 Internet Voice Distribution System (IVoDS)

The contractor shall perform sustaining engineering for the Internet Voice Distribution System (IVoDS) in accordance with the requirements documented in MSFC-RQMT-3073, IVoDS Requirements Document.

#### 3.2.2.3 KSC Support

The contractor shall perform only System Engineering (PWS 3.1.1), Hardware Engineering (PWS 3.1.3), and Network Engineering (PWS 3.1.4) in support of the NASA Kennedy Space Center (KSC).



Specifically, the contractor shall provide the following engineering support to KSC, in coordination with the MSFC point of contact:

- a. Provide Payload Data Services System (PDSS)/Enhanced HOSC System (EHS) application software products (including baseline software releases and patches with necessary installation instructions) and POC command/telemetry database products to KSC to support ISS payload pre-launch test and checkout from KSC.
- b. Provide guidance/evaluation for KSC-proposed hardware/software purchases, on an as-needed basis, to ensure that KSC-supplied components will be compatible with MSFC-supplied PDSS/EHS software.
- c. Provide a summary of planned EHS and PDSS hardware and software changes, including major hardware and/or software architecture changes, COTS software upgrades, and recommended installation strategies. Provide on-site support at KSC for major, complex EHS and/or PDSS installations.
- d. Provide technical services to include configuration support and product support/trouble shooting for KSC-delivered PDSS/EHS products. Product support is classified as hardware, software, or system (the interaction of both hardware and software, or the interaction of multiple products, e.g. PDSS-EHS).

### 3.2.3 Payload Data Services System (PDSS)

The services described under this paragraph are specific to the Payload Data Services System (PDSS).

#### 3.2.3.1 PDSS Server Consolidation

The contractor shall perform and complete software and hardware design, development, and testing of PDSS applications associated with the PDSS Server consolidation cost savings initiative activities, which will be in progress when the contract takes effect. Development shall be in accordance with the requirements documented in MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan, MSFC-SPEC-2123, PDSS Development Specification, and MSFC-SPEC-2262, PDSS to EHS Interface Requirements Specification.

#### 3.2.3.2 PDSS Sustaining Engineering

The contractor shall perform sustaining engineering for the PDSS, including the upgrades defined in paragraph 3.2.3.1, in accordance with the requirements documented in MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan, MSFC-SPEC-



2123, PDSS Development Specification, and MSFC-SPEC-2262, PDSS to EHS Interface Requirements Specification.

### 3.2.4 Payload Planning System (PPS)

The services described under this paragraph are specific to the Payload Planning System (PPS).

#### 3.2.4.1 PPS Re-Engineering Initiative

The contractor shall perform and complete software and hardware design, development, and testing of PPS applications associated with the PPS Re-engineering initiative, which will be in progress when the contract takes effect. Development shall be in accordance with the requirements documented in MSFC-SPEC-3229, Payload Planning System (PPS) System Specification.

#### 3.2.4.2 PPS Sustaining Engineering

The contractor shall perform sustaining engineering for the Payload Planning System (PPS), including the upgrades defined in paragraph 3.2.4.1, in accordance with the requirements documented in MSFC-SPEC-3229, Payload Planning System (PPS) System Specification.

### 3.2.5 Enhanced HOSC System (EHS)

The services described under this paragraph are specific to the Enhanced HOSC System (EHS).

#### 3.2.5.1 EHS Cost Savings Initiative

The contractor shall perform and complete software and hardware design, development, and testing of EHS applications (e.g., EHS PC migration, Linux migration) associated with the EHS cost savings initiatives, which will be in progress when the contract takes effect. Development shall be in accordance with the requirements documented in MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan, and MSFC-RQMT-1440, Generic Requirements for the Enhanced HOSC System.

### 3.2.5.2 EHS Sustaining Engineering

The contractor shall perform sustaining engineering for the Enhanced HOSC System (EHS), including the upgrades defined in paragraph 3.2.5.1, in accordance with the requirements documented in MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan, and MSFC-RQMT-1440, Generic Requirements for the Enhanced HOSC System.

### 3.2.6 ISS Downlink Enhancement Architecture (IDEA)

The contractor shall complete the development, implementation, and test for the ISS Downlink Enhancement Architecture (IDEA) project, and perform maintenance, in accordance with MSFC-PLAN-3340, IDEA Development Plan. This development will be in progress when the contract takes effect.

### 3.2.7 Microgravity Development Laboratory (MDL) and MSFC Telescience Support Center (TSC) Support

The contractor shall provide support for the Microgravity Development Laboratory and MSFC Telescience Support Center (TSC), in accordance with the requirements documented in MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan.

The contractor shall perform only System Engineering (PWS 3.1.1), Hardware Engineering (PWS 3.1.3), and Network Engineering (PWS 3.1.4) in support of the MDL and TSC.

## 3.3 Shuttle Project

The services described under this paragraph are specific to the Shuttle project.

The contractor shall provide engineering services for the Shuttle Engineering Support Center (SESC), the Data Reduction Center (DRC) and the Meteorological Interactive Data Display System (MIDDS) Room. The contractor shall provide monthly status reports per DRD 1016MA-003.

Unless specifically noted in the respective subsequent paragraphs, the contractor shall perform System Engineering (PWS 3.1.1), Software Engineering (PWS 3.1.2), Hardware Engineering (PWS 3.1.3), Network Engineering (PWS 3.1.4), and IV&V (PWS 3.1.5) for each of the Shuttle-related HOSC facilities and systems described in the sub-paragraphs of PWS paragraph 3.3.

Specifically, the contractor shall provide engineering support to the Shuttle project as specified in PWS paragraphs 3.3.1 through 3.3.4.

### 3.3.1 Shuttle Engineering Support Center (SESC)

The contractor shall perform sustaining engineering for the SESC facility per MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan. The contractor shall provide for operational requirements for PC Goal software to support pre-launch, launch and flight operations as defined in MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan, Volume 1, Chapter 2.

The contractor shall perform only System Engineering (PWS 3.1.1), Hardware Engineering (PWS 3.1.3), and Network Engineering (PWS 3.1.4) in support of the SESC.

### 3.3.2 Data Reduction Center (DRC)

The contractor shall perform sustaining engineering of data reduction services for Shuttle launches and related activities, including data acquisition, data reduction and archival of Space Shuttle launch and test data.

The contractor shall make all appropriate changes to MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan, and other HOSC documentation to integrate the Shuttle DRC into the current HOSC processes.

### 3.3.3 Meteorological Interactive Data Display System (MIDDS)

The contractor shall perform sustaining engineering of the MIDDS facility per MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan. The contractor shall ensure system wide compatibility with other MIDDS nodes, Johnson Space Center (JSC) and Cape Canaveral Air Force Station (CCAFS), and the MSFC MIDDS user community.

The contractor shall perform only System Engineering (PWS 3.1.1), Hardware Engineering (PWS 3.1.3), and Network Engineering (PWS 3.1.4) in support of the MIDDS.

### 3.4 Chandra X-Ray Observatory Project

The services described under this paragraph are specific to the Chandra X-Ray Observatory project.

The contractor shall perform sustaining engineering for the Chandra Engineering Support Center in the HOSC according to MSFC-PLAN-904, HOSC Functional Requirements and Implementation Plan – Program Requirements, Volume 1, Section 6.

The contractor shall perform System Engineering (PWS 3.1.1), Software Engineering (PWS 3.1.2), Hardware Engineering (PWS 3.1.3), Network Engineering (PWS 3.1.4), and IV&V (PWS 3.1.5), as required, in support of the Chandra Engineering Support Center.

### **3.5 Project-Independent Engineering Tasks**

The contractor shall provide support for project-independent engineering tasks, within the scope of the HOSC contract, as required.

The contractor shall perform System Engineering (PWS 3.1.1), Software Engineering (PWS 3.1.2), Hardware Engineering (PWS 3.1.3), Network Engineering (PWS 3.1.4), and IV&V (PWS 3.1.5), as required, in support of these tasks.

## **4.0 Operations and Maintenance (O&M)**

This paragraph defines all operations and maintenance (O&M) required to support the program requirements, systems and missions. Paragraphs 4.1 through 4.6 describe generic O&M functions to be performed for the HOSC, in support of all projects. Paragraphs 4.7 through 4.9 contain project-specific requirements.

The contractor shall develop the Operations and Maintenance approach to be used and report it in accordance with DRD 1016OP-001 Operations/Maintenance Plan. The systems operated and maintained are divided into two categories, infrastructure and project specific. Infrastructure (e.g., voice and video systems) includes those systems that provide services to multiple projects from a single system. Project specific systems are those systems that provide service to a single project.

The contractor shall provide operations and maintenance including upgrades support to the HOSC, in accordance with FPD-OI-FD43.1, Ground Systems Operations. The contractor shall plan, schedule and configure the facility for mission operations activities including individual mission, simulation, and training sessions. The contractor shall execute testing and simulation for real-time activities to ensure operational support readiness.

The contractor shall provide voice, video, command, and data processing services in support of real-time operations. The HOSC services shall be provided based on project mission specific requirements for the duration of the mission.

The contractor shall continuously review and assess the future direction of operations and take advantage of technical innovations and process improvements that would result in increased quality, reliability or customer satisfaction for the HOSC facilities and systems.

#### 4.1 Procedures Maintenance, Development and Testing

The contractor shall develop, maintain, verify and validate procedures necessary for the operation of the HOSC. Procedures relating to console operations, system operations, disaster recovery, operational workarounds and mission-specific operations shall be included. These procedures shall also include recovery and backup processes.

The contractor shall develop, maintain and test procedures necessary for the verification and validation of all HOSC data systems. These procedures shall include upgrades to existing systems and new systems to be integrated into the facility.

#### 4.2 Problem Management and Resolution

The contractor shall provide for problem management and resolution within the HOSC and the remote user community for systems and facilities. The contractor shall maintain the automated problem management system to track and status problems, resolutions and problem trends by system and customer.

#### 4.3 User Support Services

The contractor shall provide liaison services between HOSC operational personnel and the HOSC customers, in support of real-time flight operations.

The contractor shall provide HOSC users, both local and remote, with technical assistance for installation, configuration and operation of all HOSC systems.

The contractor shall provide help desk services to aid local and remote users in the operation of systems and functions. The contractor shall provide this service based on project unique requirements. The contractor shall maintain a Help Desk to provide HOSC end-user training and support.

#### 4.4 HOSC Mission Services

The contractor shall perform operations and maintenance on all HOSC systems. The contractor shall maintain operational services in accordance with project specific requirements. The contractor shall provide operations of HOSC systems, with the capability to support operations on a 24-hour per day by 7 days per week basis, in response to project requirements. The contractor shall report the availability of HOSC mission services in accordance with DRD 1016MA-008, Performance Requirements Summary.

#### 4.4.1 Voice Systems

The contractor shall provide voice services to all HOSC programs and projects. The contractor shall operate and maintain the central voice switch or switches, cabling, voice instruments, and other supporting infrastructure, for internal HOSC users and external remote users. The contractor shall provide inter-center access control for operationally critical, private, or otherwise sensitive voice circuits during operations.

#### 4.4.2 Video Systems

The contractor shall provide video services to all HOSC programs and projects. The contractor shall operate and maintain the central matrix switch or switches, cabling, end video instruments, and other supporting infrastructure, for internal HOSC users.

#### 4.4.3 Computer Systems

The contractor shall provide services for the utilization of databases, applications software, user computations, command files and other user products necessary for real-time support.

The contractor shall process mission-specific data and maintain access to controlled databases.

The contractor shall provide system monitoring, computer operations and identification of problems associated with HOSC hardware, systems configuration, operating systems, COTS and unique applications software.

The contractor shall provide system operational support services for HOSC resources and equipment to include computers, consoles, workstations, networks, databases and other special equipment for local and remote operations.

The contractor shall configure, operate, test and validate local network interfaces to include data network monitoring.

The contractor shall provide real-time maintenance and change-out to maintain critical systems.

The contractor shall identify and isolate problems associated with systems and networks, and perform/support problem resolution.

#### 4.4.4 Data Storage

The contractor shall provide data storage services based on project requirements. This includes the data storage hardware and software as well as user access capabilities. Data storage services include capabilities for receiving, storing, processing, distributing, tracking, converting, recalling and protecting engineering data.

#### 4.4.5 System Administration and Management

Systems Administration and Management shall encompass the full range of system activities needed to assure continued operations and development.

The contractor shall perform database administration for HOSC computer and network resources, install databases for mission support, configure accounts per mission-specific requirements, and establish HOSC computer system and database backup processes for system recovery purposes.

The contractor shall manage data storage devices, such as disks or tapes, and associated storage libraries.

The contractor shall create backup files for storage and maintenance according to approved policies and procedures.

The contractor shall install, checkout and test all hardware required to fulfill the O&M functions, including development systems. The contractor shall configure hardware for integrated development testing, delivery, and accessibility control of operational configurations.

The contractor shall install upgrades and patches to system software and COTS products.

The contractor shall provide development, test and operations support to investigate and resolve system problems.

The contractor shall perform system software installations and upgrades. The contractor shall track the release of HOSC software in accordance with NPG 2210.1, External Release of NASA Software and report it as described in DRD 1016MA-007.

The contractor shall provide administration functions to support the HOSC systems and networks required for HOSC operational and development activities, and provide administration functions to support the HOSC administrative (non-operations) networks required to support HOSC activities.

The contractor shall configure system and network audit capabilities to collect and log security audit and network performance data, review network and system security audit logs daily, and provide support for Operating System and COTS installation, configuration and maintenance including backups and failure recoveries of all operational



and development systems in accordance with MPD 2800.1, Management of IT Systems at MSFC.

The contractor shall perform vulnerability scans on all existing and new systems connected to the HOSC networks using NASA provided software as determined by the MSFC IT Security Team. The contractor shall keep metrics on the security alerts/patches and prepare and deliver a monthly IT Security Status Report to NASA in accordance with DRD 1016MA-005.

The contractor shall monitor in real-time all systems and functions commensurate to the system's priority in order to assure continued operations. The contractor shall track and report system problems and status to assure closure of open issues.

The contractor shall perform preventive maintenance on all hardware and software systems required to support HOSC operations and development. The contractor shall track system maintenance activities status to assure closure of open issues and report them in accordance with DRD 1016MA-006, Systems Status Monthly Report.

#### 4.5 Ground Systems Requirements Integration

The contractor shall perform operations requirements integration and mission support planning for coordination of HOSC operational support activities, and coordinate operational support planning across all system elements to ensure implementation and maintenance uniformity in accordance with HOSC-PLAN-623, HOSC Project Plan.

The contractor shall provide for the collection, formulation, integration, analysis and processing of system, mission and communication requirements from customers (within the HOSC as well as for remote users). The contractor shall integrate requirements and systems to enhance efficiencies and minimize costs. The contractor shall conduct operations integration and planning to ensure coordination of all operations disciplines and integrated planning across all system elements, including Government-Furnished Property (GFP). The contractor shall support technical interchange meetings with users. The contractor shall forecast and assess future mission requirements. Reporting shall be in accordance with DRD 1016MA-003, Progress Report.

The contractor shall provide mission coordination services to ensure that all requirements and support commitments are interpreted and documented with regard to facility and system configurations.

The contractor shall collect and document mission-specific requirements for implementation and integration into HOSC systems and processes.

The contractor shall coordinate access to HOSC systems in accordance with HOSC-PROC-180, HOSC Standard Operating Procedure.



The contractor shall ensure inter-center operational support requirements and implementation program commitments are fulfilled.

The contractor shall evaluate mission support requirements for HOSC communications and data systems against current capabilities, verify operations procedures and management plans, and ensure that all necessary equipment is in operating condition prior to scheduled activity support.

#### 4.6 Facilities

The contractor shall implement and maintain a uniform system for managing the use of assigned building 4663 facilities in accordance with HOSC-HDBK-003, HOSC Facilities Document, HOSC-PLAN-009, HOSC Contingency Plan, MSFC-PLAN-2934, HOSC Emergency and Disaster Recovery Plan, and MSFC-PROC-1933, Huntsville Operations Support Center (HOSC) Access Procedures. The contractor shall provide facility planning, assessments, analysis and installation planning and support. The contractor shall plan and coordinate required facility modifications with cognizant HOSC facility personnel. Reporting shall be in accordance with DRD 1016CD-002, On-Site Employee Location List, and DRD 1016MA-003, Progress Report.

The contractor shall provide HOSC facility coordination, workload control and systems scheduling services. The contractor shall integrate the product load, facility and equipment configurations, and systems to support mission activities.

The contractor shall maintain HOSC floor plans for all assigned facilities to document the location of furniture, equipment, and electrical services and plan for future facility requirements or expected changes in personnel and equipment locations that includes power, lighting, square footage, layout, heating, ventilation, and air conditioning (HVAC), and fire suppression and detection.

The contractor shall assess and implement HOSC Configuration Request (HCR) changes.

The contractor shall coordinate and status operational room configurations within the HOSC and provide computer-aided design drawings for any reconfiguration change and new facility development.

The contractor shall coordinate and schedule facility support activities including the configuration and reconfiguration of each facility without impacting on-going operations.

The contractor shall provide inter-center coordination and scheduling for external HOSC interfaces, and interfaces to remote sites.

#### 4.7 International Space Station (ISS) Project

The services described under this paragraph are specific to the International Space Station (ISS) project. Paragraph 4.7.1 contains ISS specific requirements relative to the generic O&M functions described in PWS paragraphs 4.1 through 4.6. Paragraphs 4.7.2 through 4.7.4 define additional O&M tasks that must be performed in support of the ISS project.

##### 4.7.1 Specific Mission Support

The International Space Station Payload Operations Integration Function (POIF) project uses all of the HOSC basic services to operate the Payload Operations Center (POC). The contractor shall maintain these services for the duration of the ISS POIF project. The contractor shall provide complete support for each ISS mission, experiment and ISS increment in accordance with a flight/mission specific HOSC Mission Configuration Supplement (HMCS).

Per PWS paragraph 4.3, User Support Services, the contractor shall provide training and Help Desk services related to the use and operation of equipment and systems to users, both local and remote, and operators. The contractor shall provide classroom and hands-on training, demonstrations, documentation, training materials and training records. The contractor shall deliver training in the form of training seminars and local/remote instructor led classes. Training records shall be developed and maintained.

Per PWS paragraph 4.4, HOSC Mission Services, the contractor shall provide voice, video and data processing services in support of ISS real-time operations on a continuous 24-hour basis. Day shift technical support to address critical problems encountered after normal working hours shall be provided on a call-in basis with a 2-hour response time. In addition to the 24-hour real-time support, the contractor shall provide 40 hours of weekly support to include ISS test activities, mission preparation, training, development test and simulation activities during the normal day shift.

Per PWS paragraph 4.5, Ground Systems Requirements Integration, the contractor shall maintain the Program Requirements Document (PRD)/Database in accordance with JSC-27379, Support Requirements System Management Plan to reflect all inter-center requirements for the POC.

##### 4.7.2 POC Database Production

The contractor shall produce POC command and telemetry databases in support of tests and flight. The contractor shall build, validate and deliver an average of 3 command and 3 telemetry databases per ISS Flight (engineering, preflight, and flight). The contractor shall process up to 3 Payload Data Library (PDL) exports for each of the 3 telemetry databases per flight as required. The contractor shall utilize procedures and scripts to

ensure complete, consistent database population, and provide "as populated" database documentation.

#### 4.7.3 Certification of Flight Readiness (CoFR)

The contractor shall report mission and systems validation, verification and Certification of Flight Readiness (CoFR) in accordance with paragraph 4.3 of FPD-0I-FD40.4, Flight Certification for Ground Systems. The contractor shall certify systems and personnel where required.

#### 4.7.4 KSC Operations & Maintenance Support

The contractor shall provide necessary technical assistance to the Kennedy Space Center for delivered PDSS/EHS application software and POC command/telemetry database release installations, in addition to providing on-call day-shift help desk/engineering support for problems experienced by the KSC Payload Test and Checkout System (PTCS).

Services shall be delivered on-site at KSC, or remotely from MSFC, as appropriate to the problem or technical issue. Technical services shall be available on an 8 hr-per-day by 5days-per-week basis.

#### 4.8 Shuttle Project

The services described under this paragraph are specific to the Shuttle project. Paragraph 4.8.1 contains Shuttle specific requirements relative to the generic O&M functions described in PWS paragraphs 4.1 through 4.6. Paragraph 4.8.2 defines additional O&M tasks that the must be performed in support of the Shuttle project.

##### 4.8.1 Specific Mission Support

Per PWS paragraph 4.4, HOSC Mission Services, the contractor shall provide voice, video and data processing services in support of Shuttle test, simulation, pre-launch, launch and flight operations. The contractor shall provide on-site support during Level A Shuttle activities (Systems, Network, and MIDDs), and for special activities. The contractor shall coordinate system activities with other MIDDs nodes, Johnson Space Center (JSC) and Cape Canaveral Air Force Station (CCAFS), and the MSFC MIDDs user community.

The contractor shall provide on-call support for non-Level A Shuttle activities.

Per PWS paragraph 4.4, HOSC Mission Services, the contractor shall provide telemetry controller/operations coordination in accordance with MSFC-PROC-1613, Joint Operations Procedures for the Kennedy Marshall Transmission System. The contractor shall provide for inter-center communication coordination for test, simulation, pre-launch, launch and flight operations.

Per PWS paragraph 4.4.4, Data Storage, the contractor shall create a best-source merge of telemetry data from real-time, playback and dump sources. The contractor shall archive raw and processed telemetry data and create data reduction products as required. The contractor shall provide support including loading of data, verification of historical data, checkout, maintenance and processing of data.

#### 4.8.2 Certification of Flight Readiness (CoFR)

The contractor shall report mission and systems validation, verification and Certification of Flight Readiness (CoFR) in accordance with paragraph 4.3 of FPD-01-FD40.4, Flight Certification for Ground Systems. The contractor shall certify systems and personnel where required.

#### 4.9 Chandra X-Ray Observatory

The services described under this paragraph are specific to the Chandra project. Paragraph 4.9.1 contains Chandra specific requirements relative to the generic O&M functions described in PWS paragraphs 4.1 through 4.6. There are no additional unique O&M tasks to be performed in support of the Chandra project.

##### 4.9.1 Specific Mission Support

Per PWS paragraph 4.4.1, Voice Systems, and PWS paragraph 4.4.5, System Administration and Management, the contractor shall provide voice and network services in support of ongoing Chandra operations.

DATA PROCUREMENT DOC.  
NO. 1016  
ISSUE BASIC

**NNM04AA07C**

CONTRACT/RFP

EXHIBIT NUMBER

**J-2**

ATTACHMENT NUMBER

**HUNTSVILLE OPERATIONS SUPPORT CENTER (HOSC)**

PROJECT/SYSTEM

**DATA PROCUREMENT DOCUMENT**

CONTRACTOR

**September 24, 2003**

DATE

National Aeronautics and  
Space Administration



National Aeronautics and Space Administration			DATA PROCUREMENT DOC.		
<b>PAGE REVISION LOG</b>			NO.    ISSUE		
			1016    BASIC		
NOTE: The current revision is denoted by a vertical line in the outer margin adjacent to the affected text.		AS OF: 09-24-03	SUPERSEDING:		PAGE:
INSERT LATEST REVISED PAGES.			DISCARD SUPERSEDED PAGES.		
ITEM	PAGE	STATUS	ITEM	PAGE	STATUS

## 1.0 INTRODUCTION

- 1.1 **Scope:** Subject to the Rights in Data clause, this Data Procurement Document (DPD) sets forth the data requirements in each Data Requirements Description (DRD) and shall govern that data required by the DPD for the contract. The contractor shall furnish data defined by the DRD's listed on the Data Requirements List (DRL) by category of data, attached hereto, and made a part of this DPD. Such data shall be prepared, maintained, and delivered to MSFC in accordance with the requirements set forth within this DPD. In cases where data requirements are covered by a Federal Acquisition Regulation (FAR) or NASA FAR Supplement (NFS) regulation or clause, the regulation will take precedence over the DPD, per FAR 52.215-8.
- 1.2 **DPD Description:** This DPD consists of a Document Change Log, a Page Revision Log, a Table of Contents, an Introduction, a Statement of General Requirements, DPD maintenance procedures, a DRL, and the DRD's.
- 1.2.1 **General Requirements:** The general requirements, as specified in paragraph 2.0 of this DPD, prescribe those requirements applicable to the preparation, maintenance, and delivery of data that are better defined in aggregate than in the individual DRD's.
- 1.2.2 **Data Requirements List (DRL):** Throughout the performance of the contract, the DRL provides a listing by data category of the data requirements of the DPD.
- 1.2.3 **Data Requirements Descriptions (DRD's)**
- 1.2.3.1 Each data requirement listed on the DRL is given complete definition by a DRD. The DRD prescribes content, format, maintenance instructions, and submittal requirements.
- 1.2.3.2 For the purpose of classification and control, DRD's of this DPD are grouped into the following broad functional data categories:

<u>CATEGORY SYMBOL</u>	<u>DESCRIPTION</u>
CD	Contractual Data
CM	Configuration Management
LS	Logistics/Support
MA	Management
OP	Operations
QE	Quality Engineering
SA	Safety
SE	Systems Engineering
VR	Verification

- 1.2.3.3 The symbols representing these data categories form part of the prefix of the DRD identification number. The first numerical characters reflect the DPD number.
- 1.2.3.4 To facilitate the usage and maintenance of the DPD, the DRD's have been sectionalized in accordance with the above data categories.



- 1.2.3.5 The DRD's are filed by data category and are in alpha-numeric sequence as listed on the DRL page (or pages) that precedes the DRD's.
- 1.2.4 Document Change Log (DCL) and Page Revision Log (PRL): The Document Change Log chronologically records all revision actions that pertain to the DPD. The Page Revision Log describes the current revision status of each page of the DPD and thus, at all times, provides its exact configuration.
- 1.2.5 DPD Maintenance Procedures: Maintenance procedures define the detailed methods to be employed in maintaining the DPD. Detailed maintenance procedures are specified in paragraph 3.0 of this DPD.
- 1.3 Data Types for Contractual Efforts: The types of data and their contractually applicable requirements for approval and delivery are:

TYPEDESCRIPTION

- 1 All issues and interim changes to those issues require written approval from the requiring organization before formal release for use or implementation.
- 2 MSFC reserves a time-limited right to disapprove in writing any issues and interim changes to those issues. Data shall be submitted to the procuring activity for review not less than 45 calendar days prior to its release for use or implementation. The contractor shall clearly identify the release target date in the "submitted for review" transmittal. If the contractor has not been notified of any disapproval prior to the release target date, the data shall be considered approved. To be an acceptable delivery, disapproved data shall be revised to remove causes for the disapproval before its release.
- 3 These data shall be delivered by the contractor as required by the contract and do not require MSFC approval. However, to be a satisfactory delivery, the data must satisfy all applicable contractual requirements.
- 4 These data are produced or used during performance of the contract and are retained by the contractor. They shall be delivered when MSFC requests it according to instructions in the request. The contractor shall maintain a list of these data and shall furnish copies of the list to MSFC when requested to do so.
- 5 These data are incidental to contract performance and are retained by the contractor in those cases where contracting parties have agreed that delivery is not required. However, the Contracting Officer or the Contracting Officer's Representative shall have access to and can inspect this data at its location in the contractor's or subcontractor's facilities.

## 2.0 STATEMENT OF GENERAL REQUIREMENTS

- 2.1 Applicable Documents: Documents included as applicable documents in this DPD are the issue specified in the Performance Work Statement, and form a part of the DPD to the extent specified herein. References to documents other than applicable documents in the data requirements of this DPD may sometimes be utilized. These do not constitute a contractual obligation on the contractor. They are to be used only as a possible example or to provide related information to assist the contractor in developing a response to that particular data requirement.

**2.2 Subcontractor Data Requirements**

2.2.1 The contractor shall specify to subcontractors and vendors, if any, the availability source of all data required for the satisfactory accomplishment of their contracts. The contractor shall validate these requirements for documents when appropriate; where the requirement concerns other contractor data, the contractor shall provide his subcontractor or vendor with the necessary documents. All such requests shall be accomplished under the auspices of the contractor.

2.2.2 Reference to subcontractor data in the contractor's responses is permissible, providing the references are adequate and include such identification elements as title, number, revision, etc., and a copy of the referenced data is supplied with the response document at time of delivery to MSFC.

**2.3 Distribution**

2.3.1 Distribution of required documentation shall be in quantities determined by the Contracting Officer. Recipient names and email (if applicable) addresses shall be noted on a separate distribution list to be furnished by the Contracting Officer.

2.3.2 Electronic submission of data deliverables is preferred. The preferred formats include Microsoft Word, Excel, PowerPoint, or Adobe Acrobat PDF as appropriate. The software versions shall be confirmed prior to submittals. Marshall Policy Directive (MPD) 2210.1 specifies the requirements for utilizing the Documentation Repository. Electronic data submittals to the Repository shall be coordinated with the Repository. MSFC has the capability of receiving electronic data files for importing into the MSFC Documentation Repository system. Computer-Aided Design (CAD) drawings shall be submitted in the original native vector, Hewlett-Packard Graphic Language (HPGL) and raster image formats.

2.4 **Printing:** All printing, duplicating, or binding shall be in accordance with NFS 1852.208-81, Restrictions on Printing and Duplicating. Printing of formal reports and Type 1 and 2 data in book format shall be in accordance with the following general specifications:

- a. Method of reproduction - offset/xerography.
- b. Finished size - 8 1/2" X 11".
- c. Paper - 20-pound opaque bond.
- d. Cover - Litho cover stock.
- e. Pages will be printed on both sides; blank pages will be avoided when possible.
- f. Oversize pages will be avoided when possible, but if necessary will be folded to 8 1/2" X 11".
- g. Binding shall be the most economical method commensurate with the size of the report and its intended use.

2.5 **Microfilm:** When microfilm of drawings, specifications, and associated lists is required, it shall be 35mm silver halide negative, first generation (Type 1, Class 1) in accordance with ANSI/AIIM MS32-1987 (Microrecording of Engineering Source Documents on 35mm Microfilm). Input Form DD Form 1562, Dual Purpose Engineering Document Card, shall be used for microfilm purposes. The microfilm shall be submitted in the form of roll microfilm or master microfilm aperture cards. If microfilm rolls are used, they shall not exceed 100 feet in length. Deviations from these requirements shall be approved by the Contracting Officer. All deviations shall be coordinated with the MSFC Micrographics Manager, located in the Documentation Repository.

2.6 **Contractor's Internal Documents:** The contractor's internal documents shall be used to meet the data requirements of this DPD unless a specific format is required by the applicable DRD.

- 2.7 Document Identification: Type 1 and 2 documents published by the contractor and submitted in response to the data requirements of this DPD shall be identified within an organized identification numbering system prescribed to MSFC by the contractor and, if applicable, as approved by MSFC. This number, change legend, date, and title constitute the minimum identification of the specific document and shall appear on the cover and title page. The contract number shall also appear on the cover and title page as separate markings. The originator and organization shall be included on the title page. The document number, change legend, and date shall appear on each page of the document. In the front matter of each document, identify the DPD number and applicable DRD number(s) required for document preparation. Successive issues or revisions of documents shall be identified in the same manner as the basic issue and shall have appropriate change identification. Drawings and ECP's are excluded from the marking provisions of this paragraph. All Type 1 documentation, excluding configuration management requirements, will be marked "PRELIMINARY PENDING MSFC APPROVAL," and once approved shall be reissued with "APPROVED BY MSFC" and the date and approval authority annotated on the cover.
- 2.8 Reference to Other Documents in Data Submittals: All referenced documents shall be made readily available to the cognizant MSFC organization upon request. The contractor should make sure that the references are available to MSFC in a manner which does not incur delays in the use of the response document.
- 2.9 Maintenance of Type 1 Document Submittals
- 2.9.1 Revisions of Type 1 documentation may be accomplished either by individual page revision or by a complete reissue of the document identified in accordance with requirements of 2.7 above, with the exception of drawings (which shall be revised in accordance with contract configuration management requirements).
- 2.9.2 Individual page revisions shall be made as deemed necessary by the contractor or as directed by the Contracting Officer.
- 2.9.3 A Type 1 document shall be completely reissued when, in the opinion of the contractor and/or MSFC, the document has been revised to the extent that it is unusable in its present state, or when directed by the Contracting Officer. When complete reissues are made, the entire contents of the document shall be brought up to date and shall incorporate revised pages. All revisions shall be recorded. A revision log shall identify complete reissues except for periodic reports and documents which are complete within themselves as final.
- 2.9.4 Changes of a minor nature to correct obvious typing errors, misspelled words, etc., shall only be made when a technical change is made, unless the accuracy of the document is affected.
- 2.9.5 All revised pages shall be identified by a revision symbol and a new date. Each document shall contain a log of revised pages that will identify the revision status of each page with the revision symbol. This list shall follow the table of contents in each document. The line or lines revised on a given page shall be designated by the use of vertical line in the margin of the page, and the change authority shall be indicated adjacent to the change.
- 2.9.6 Contractor Type 1 documents shall not be submitted containing pen and ink markups which correct, add to, or change the text, unless schedule problems exist and approval is obtained in writing from the Contracting Officer. Such markups, however, shall not exceed 20 percent of the page content and shall be acceptable provided that the reproduced copies are legible. In addition, hand-drawn schematics, block diagrams, data curves, and similar charts may be used in original reports in lieu of formally prepared art work, as long as legibility of copies is not impaired. The Contracting Officer will determine acceptability.

### 3.0 DPD MAINTENANCE PROCEDURES

- 3.1 MSFC-Initiated Change: New and/or revised data requirements will be incorporated by contract modification to which the new or revised portion of the DPD will be appended. The contractor shall notify the Contracting Officer in the event a deliverable data requirement is imposed and is not covered by a DRD, or when a DRD is changed by a contract modification and for which no revision to DPD is appended. In such cases, the contractor shall submit the requested changes to MSFC for approval. See paragraph 3.3.1 for change procedures.
- 3.2 Contractor-Initiated Change: Contractor-proposed data requirements, or proposed changes to existing requirements shall be submitted to MSFC for approval.
- 3.3 DPD Change Procedures
- 3.3.1 Changes to a contractual issue of this DPD will be identified by MSFC on the Document Change Log and Page Revision Log. The actual revised material on the DPD page will be identified by placing a heavy vertical line in the right-hand margin extending the entire length of the change. In addition, the numerical control number of the contractual direction authorizing the change shall be placed adjacent to the vertical revision line. These revision identifiers shall be used to reflect the current revision only; any previous symbols on a page will be deleted by the current revision.
- 3.3.2 The date of the contractual direction paper, e.g., Change Order, Supplemental Agreement, or Contracting Officer's letter shall be entered under the "Status " column of the Page Revision Log adjacent to the affected page or DRD number, and in the "as of" block. The date that was in the "as of" block will be entered in the "Superseding" block.
- 3.3.3 The Document Change Log entitled "Incorporated Revisions" will be changed to indicate the number, portions affected, and associated Supplemental Agreement number, if applicable.
- 3.3.4 The Document Change Log entitled "Outstanding Revisions" is changed periodically to indicate outstanding Change Orders and Contracting Officer notification letters.
- 3.4 DPD Reissues
- 3.4.1 When conditions warrant, the DPD will be reissued by MSFC and will supersede the existing DPD in its entirety. Reissues will be issued by contractual direction.
- 3.4.2 All revision symbols (vertical lines and contractual direction control numbers) will be removed from all pages; revision dates shall remain in the Date Revised block on DRD's that have been revised. The issue symbol, which will commence with "A" and progress through "Z," will be entered in the DPD identification block of each DRD page of the DPD.

# **HUNTSVILLE OPERATIONS SUPPORT CENTER (HOSC)** **Data Requirements List**

<u>DRD</u>	<u>DATA TYPE</u>	<u>TITLE</u>	<u>OPR</u>
<b>CD - Contractual Data</b>			
1016CD-001	2	Information Technology Security Plan(s)	AD33
1016CD-002	3	On-site Employee Location List	PS40
1016CD-003	3	Technology Reports	CD30
<b>CM - Configuration Management</b>			
1016CM-001	1	Configuration Management Plan	ED43
<b>LS - Logistics Support</b>			
1016LS-001	2	Government Property Management Plan	AD41
<b>MA - Management</b>			
1016MA-001	1	Management Plan	FD40
1016MA-002	3	Financial Management Report (533M)	RS40
1016MA-003	3	Progress Report & Metrics	FD40
1016MA-004	3	Work Breakdown Structure (WBS) and WBS Dictionary	RS40/VS10
1016MA-005	3	IT Security Status Report	FD40
1016MA-006	3	Systems Status Monthly Report	FD40
1016MA-007	3	HOSC Software Release Monthly Report	FD40
1016MA-008	3	Performance Requirements Summary	FD40
<b>OP - Operations</b>			
1016OP-001	2	Operations/Maintenance Plan	FD40
<b>QE - Quality Engineering</b>			
1016QE-001	1	Software Quality Assurance Plan	QS10
<b>SA - Safety</b>			
1016SA-001	1	On-site Safety and Health Plan	QS50/AD10/AD60
1016SA-002	3	Mishap and Safety Statistics Reports	QS50
<b>SE - System Engineering</b>			
1016SE-001	2	System Development Plan	FD40
<b>VR - Verification</b>			
1016VR-001	2	Verification Plan	FD40

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016CD-001
3. DATA TYPE: 2
4. DATE REVISED:
5. PAGE: 1/2
6. TITLE: Information Technology Security Plan(s)
7. DESCRIPTION/USE: To document information technology security risk management and safeguards for protection of unclassified NASA electronic information and data processed by Federal general support computer systems and major software applications.
8. OPR: AD33                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: 45 days after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: Revise as required
13. REMARKS: The information technology security plan(s) must be consistent with and further detail the approach contained in the offeror's proposal or sealed bid that resulted in the award of this contract and in compliance with the requirements stated in NFS 1852.204-76.
14. INTERRELATIONSHIP: PWS paragraph 2.5
15. DATA PREPARATION INFORMATION:
  - 15.1 **SCOPE:** Information Technology Security Plan(s) shall document the safeguards necessary to ensure sufficient availability, integrity, and confidentiality of that information accessed or managed within the systems and/or applications, based on the contractor's assessment of risks.
  - 15.2 **APPLICABLE DOCUMENTS:**

MPD 2810.1	<i>IT Security</i>
NPG 2810.1	<i>Security of Information Technology</i>
NFS 1804.470-3	<i>Security Plan for Unclassified Federal Information Technology systems</i>
NFS 1852.204-76	<i>Security Requirements for Unclassified Information Technology Resources</i>
  - 15.3 **CONTENTS:** The Information Technology Security Plan shall meet the requirements of the applicable documents in 15.2 and document how the contractor and subcontractor personnel will utilize, in a secure manner commensurate with the sensitivity of the information involved, those Federal computer systems and software applications managed by others. The plan shall describe the contractor's processes for implementing information security including personnel background screening, personnel awareness and training, information protection, and security incident response.

Additionally, a separate system-level Information Technology System Security Plan shall be prepared for each Federal general support computer system or major software application managed by the contractor and/or subcontractor personnel in the performance of this contract. The Information Technology System Security Plan(s) shall meet the requirements of the applicable documents in 15.2. NPG 2810.1 defines "general support computer systems" and "major applications" and provides plan requirements for both.
  - 15.4 **FORMAT:** Contractor format is acceptable.

### DRD Continuation Sheet

TITLE: Information Technology Security Plan(s)

DRD NO.: 1016CD-001

DATA TYPE: 2

PAGE: 2/2

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15.5 MAINTENANCE: Changes shall be incorporated by change page or complete reissue.



## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016CD-002
3. DATA TYPE: 3
4. DATE REVISED:
5. PAGE: 1/1
6. TITLE: On-Site Employee Location Listing
7. DESCRIPTION/USE: To assist NASA in conducting contractor floor checks.
8. OPR: PS10                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: Fifteenth of month following first month of operation after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: Update quarterly. If deemed necessary by the Contracting Officer, the contractor shall submit the list at times other than stated.
13. REMARKS: Reference is made to FAR 52.215-2, Federal Acquisition Regulation Clause: *Audit and Records - Negotiations* (June 1999).
14. INTERRELATIONSHIP: PWS paragraphs 2.1.b, 4.6
15. DATA PREPARATION INFORMATION:
  - 15.1 SCOPE: The On-Site Employee Location Listing shall provide NASA with a list of all on-site contractor employees working under this contract and their designated locations.
  - 15.2 APPLICABLE DOCUMENTS: None
  - 15.3 CONTENTS: The list shall include the following information for each employee: employee's name, position, phone number, e-mail address, company affiliation, location (building/room number), shift assignment, supervisor's name, and supervisor's location (building/room number).
  - 15.4 FORMAT: Contractor format is acceptable.
  - 15.5 MAINTENANCE: None required

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016      ISSUE: BASIC
2. DRD NO.: 1016CD-003
3. DATA TYPE: 3
4. DATE REVISED:
5. PAGE: 1/3
6. TITLE: Technology Reports
7. DESCRIPTION/USE: Provides NASA with technical information concerning any invention, discovery, improvement, or innovation made by a contractor in the performance of work under this contract for the purpose of disseminating this information to obtain increased use. Also, to provide NASA with data to review for possible patentable items.
8. OPR: CD30      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION:  
Disclosure of Invention and New Technology (NASA Form 1679): Within 2 months of identification of subject invention.  
Interim NASA-MSFC Technology Report (MSFC Form 4204): 12 months from the date of the contract.  
Utilization Report: Upon Contracting Officer's request.
12. SUBMISSION FREQUENCY:  
Disclosure of Invention and New Technology (NASA Form 1679): For each subject invention.  
Interim NASA-MSFC Technology Report (MSFC Form 4204): Every 12 months.  
Final NASA-MSFC Technology Report (MSFC Form 4204): Three months after completion of contracted work.  
Utilization Report: No more frequently than annually.
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 2.13
15. DATA PREPARATION INFORMATION:
  - 15.1 SCOPE: The Technology Reports include technical detail as is necessary to identify and fully describe a "Subject Invention". Per FAR 52.227-11, "Subject Invention" means any invention of the contractor conceived or first actually reduced to practice in the performance of work under this contract.
  - 15.2 APPLICABLE DOCUMENTS  
FAR 52.227-11      *Patent Rights - Retention by Contractor (Short Form) (June 1997) - As modified by NASA FAR Supplement 1852.227-11*
  - 15.3 CONTENTS: The Technology Reports consist of:
    - a. Disclosure of Invention and New Technology (Including Software): In accordance with FAR 52.227-11(c), the disclosure to the agency shall be in the form of a written report and shall identify the contract under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for

## DRD Continuation Sheet

TITLE: Technology Reports

DRD NO.: 1016CD-003

DATA TYPE: 3

PAGE: 2/3

### 15. DATA PREPARATION INFORMATION (CONTINUED):

publication at the time of disclosure. In addition, after disclosure to the agency, the Contractor will promptly notify the agency of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Contractor. This reporting requirement may be met by completing NASA Form 1679 (February 1998). Use of this form is preferred; however, if the form is not used the following information should be provided in order to meet the reporting requirement:

1. Descriptive title.
2. Innovator(s) name(s), title(s), phone number(s), and home address(es).
3. Employer when innovation made (name and division).
4. Address (place of performance).
5. Employer status (e.g., Government, college or university, non-profit organization, small business firm, large entity).
6. Origin (e.g., NASA grant number, NASA prime contract number, subcontractor, joint effort, multiple contractor contribution, other).
7. NASA Contracting Officer's Technical Representative (COTR).
8. Contractor/grantee New Technology Representative.
9. Brief abstract providing a general description of the innovation:
  - (a) Description of the problem or objective that motivated the innovation's development.
  - (b) Technically complete and easily understandable description of innovation developed to solve or meet the objective.
  - (c) Unique or novel features of the innovation and the results or benefits of its application.
  - (d) Speculation regarding potential commercial applications and points of contact (including names of companies producing or using similar products).
10. Additional documentation.
11. Degree of technological significance (e.g., modification of existing technology, substantial advancement in the art, major breakthrough).
12. State of development (e.g., concept only, design, prototype, modification, production model, used in current work).
13. Patent status.
14. Dates or approximate time period during which this innovation was developed.
15. Previous or contemplated publication or public disclosure including dates.
16. Answers to the following questions (for software only):
  - (a) Using outsiders to beta-test code? If yes, done under beta-test agreement?
  - (b) Modifications to this software continue by civil servant and/or contractual agreement?
  - (c) Previously copyrighted (if so, by whom)?
  - (d) Were prior versions distributed (if yes, supply NASA or Contractor contract)?
  - (e) Contains or is based on code owned by a non-federal entity (if yes, has a license for use been obtained?)?
  - (f) Has the latest version been distributed without restrictions as to use or disclosure for more than one year (if yes, supply date of disclosure)?
17. Name(s) and signature(s) of innovator(s).

- b. Interim NASA-MSFC Technology Report: This report shall consist of a complete listing of subject inventions for the previous 12-month period or certify that there are none. Completion of MSFC Form 4204 will satisfy this reporting requirement. Use of the form is

**DRD Continuation Sheet****TITLE:** Technology Reports**DRD NO.:** 1016CD-003**DATA TYPE:** 3**PAGE:** 3/3**15. DATA PREPARATION INFORMATION (CONTINUED):**

preferred; however an alternate format is acceptable provided all required information is provided.

c. Final NASA-MSFC Technology Report: This report shall consist of a comprehensive list of all subject inventions for the duration of the contract or certification that there are none. Completion of MSFC Form 4204 will satisfy this reporting requirement. Use of the form is preferred; however an alternate format is acceptable provided all required information is provided.

d. Report on utilization of subject inventions: This report provides information on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the contractor or its licensees or assignees. Per FAR 52.227-11, this report shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the contractor, and other data requested by the Contracting Officer.

**15.4 FORMAT:**

The Disclosure of Invention and New Technology (Including Software) report may use NASA Form 1679 (February 1998) or provide sufficient information to meet the reporting requirement.

The interim and final NASA-MSFC Technology Reports may use MSFC Form 4204 (February 1993) or provide sufficient information to meet the reporting requirement.

Referenced forms may be obtained from the Contracting Officer or New Technology Representative.

**15.5 MAINTENANCE: None required.**

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016CM-001
3. DATA TYPE: 2
4. DATE REVISED:
5. PAGE: 1/1
6. TITLE: Configuration Management Plan
7. DESCRIPTION/USE: To describe the contractor's method for accomplishing the configuration management requirements of the contract using the existing configuration management system as a baseline
8. OPR: FD40                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: 60 days after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: One time, revise as required
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 2.9
15. DATA PREPARATION INFORMATION:
- 15.1 SCOPE: The Configuration Management Plan (CMP) provides the contractor's proposed management approach for implementation of configuration management.
- 15.2 APPLICABLE DOCUMENTS:  
MSFC-PLAN-2929                      Configuration Management Plan for the Huntsville Operations Support Center (HOSC)
- 15.3 CONTENTS: The plan shall describe the contractors approach to the Configuration Management of the hardware, software, firmware and documentation to be utilized on this contract. The plan shall be compatible with MSFC-PLAN-2929, Configuration Management Plan for the Huntsville Operations Support (HOSC). The plan shall include configuration identification, interface control, change control, documentation, status accounting, and configuration verification. The plan shall include a schedule referenced to phase-in of all the major milestones needed to track implementation.
- 15.4 FORMAT: Contractor format is acceptable with MSFC approval.
- 15.5 MAINTENANCE: Changes shall be incorporated by change page or complete reissue. Update as required to maintain current with program changes.

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016LS-001
3. DATA TYPE: 2
4. DATE REVISED:
5. PAGE: 1/1
6. TITLE: Government Property Management Plan
7. DESCRIPTION/USE: To describe the method of controlling and managing Government property.
8. OPR: AD41                      9. DM: FD40
10. DISTRIBUTION: Cognizant property administrator
11. INITIAL SUBMISSION: Preliminary three months after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: Final one year after ATP, revise as required
13. REMARKS: This document shall be the official contract requirements document for the control and identification of all Government property.
14. INTERRELATIONSHIP: PWS paragraph 2.4
15. DATA PREPARATION INFORMATION:
  - 15.1 SCOPE: The Government Property Management Plan defines the contractor's methods of care, accounting, and control of Government property.
  - 15.2 APPLICABLE DOCUMENTS

FAR	<i>Federal Acquisition Regulation, Part 45</i>
NPG 5100.4B	<i>Federal Acquisition Regulation Supplement, (NASA/FAR Supplement) Part 18-45 and latest revisions thereto</i>
NPG 4200.1E	<i>NASA Equipment Management Manual</i>
MWI 4200.1A	<i>Equipment Control</i>
  - 15.3 CONTENTS: This plan shall satisfy the requirements of the documents listed in 15.2, and the contract. This plan shall consist of those procedures which constitute the contractor's property management system and shall include the following categories:

a. Property management.	i. Reports.
b. Acquisition.	j. Consumption.
c. Receiving.	k. Utilization.
d. Identification.	l. Maintenance.
e. Records.	m. Subcontractor control.
f. Movement.	n. Disposition.
g. Storage.	o. Contract close-out.
h. Physical inventories.	
  - 15.4 FORMAT: Contractor format is acceptable.
  - 15.5 MAINTENANCE: Changes shall be incorporated by change page or complete reissue.

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016MA-001
3. DATA TYPE: 1
4. DATE REVISED:
5. PAGE: 1/2
6. TITLE: Management Plan
7. DESCRIPTION/USE: To provide an overall description of the process and methods planned for accomplishing the Performance Work Statement.
8. OPR: FD40                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: 30 days after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: Update as required
13. REMARKS:
14. INTERRELATIONSHIP: 2.1.a
15. DATA PREPARATION INFORMATION:
  - 15.1 **SCOPE:** The Management Plan provides the basic planning document which describes the contractor's overall plan for performing the contracted scope of work.
  - 15.2 **APPLICABLE DOCUMENTS:** None
  - 15.3 **CONTENTS:** The Management Plan shall provide a description of the contractor's management concepts, practices, approaches, plans, and schedules necessary for accomplishing (managing and controlling) the tasks described in the Performance Work Statement. In addition, the plan shall present those management systems to be utilized to define and delegate task assignments and shall define the organizational relationships of the contractor, subcontractors, and the Government.

Management Overview - A brief description of the project objectives, the system to be furnished, and the equipment (systems), and software that is to be provided. Include a concise summary of the contractor's management organization responsible for performance of the contract, including interrelationships with the Work Breakdown Structure (WBS), within the company and with other contractors, and proposed relationships with the NASA project management.

Management Systems - This plan shall briefly describe how the various management systems are to be integrated and used for the overall project management and reporting of:

    - a. Project management.
    - b. Contract management.
    - c. Financial management.
    - d. Data requirements management.
    - e. Schedules (planning and control).
    - f. Performance management (cost/schedule/technical).
    - g. Configuration management.
    - h. Engineering management.
    - i. Logistics management.
    - j. Test/verification management.
    - k. Subcontractor/vendor management.



**DRD Continuation Sheet****TITLE:** Management Plan**DRD NO.:** 1016MA-001**DATA TYPE:** 1**PAGE:** 2/2

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**15. DATA PREPARATION INFORMATION (CONTINUED):**

- l. Procurement management.
- m. Government furnished property (GFP) management.
- n. Systems engineering management.
- o. Safety, reliability, maintainability, quality assurance.
- p. Automated information management systems.
- q. Communications.
- r. Support equipment management.
- s. Spares philosophy and planning.
- t. Facilities utilization and management.
- u. Project reviews.
- v. Environmental impact management.
- w. Risk Management

**NOTE:** It is not intended that this plan duplicate other plans called for in the Data Requirements List. This plan should summarize the overall project and reference or summarize other plans where appropriate and shall reference contractor internal procedures where applicable.

**15.4 FORMAT:** Contractor format is acceptable.

**15.5 MAINTENANCE:** Changes shall be incorporated by change page or complete reissue.

**DATA REQUIREMENTS DESCRIPTION (DRD)**

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016MA-002
3. DATA TYPE: 3
4. DATE REVISED:
5. PAGE: 1/1
6. TITLE: Financial Management Report (533M)
7. DESCRIPTION/USE: To provide monthly financial reports for monitoring program costs. The 533 reports are the official cost documents used at NASA for cost type, price re-determination, and fixed price incentive contracts.
8. OPR: RS40                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: No later than 10 working days following the end of the contractor's accounting month and not more than 44 calendar days after Authority To Proceed (ATP).
12. SUBMISSION FREQUENCY: No later than 10 working days following the end of the contractor's accounting month
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 2.2
15. DATA PREPARATION INFORMATION:
- 15.1 **SCOPE:** The Financial Management Report provides data on accumulated costs and funding projections for management of the contract.
- 15.2 **APPLICABLE DOCUMENTS**

NFS 1852.242-73	NASA Contractor Financial Management Reporting, (July 1997)
NPG 9501.2	NASA Contractor Financial Management Reporting
- 15.3 **CONTENTS:** The elements of cost for financial reporting shall be mutually agreed by the contractor and NASA project office and cover labor hours by function, direct labor cost, materials, subcontracts, interdivisional work, other direct rates, overhead by pool, fringe, G&A, and fee. Changes or additions to elements of cost shall be by mutual agreement between the contractor and the NASA project manager. The data contained in the reports must be auditable using Generally Accepted Accounting Principles. The 533M Report shall include actuals and projections at the total contract level. A summary page at the contract level shall be included reflecting the cumulative since inception cost for the contract.
- 15.4 **FORMAT:** The NASA Form 533M shall be prepared per NPG 9501.2 and NFS 1852.242-73. Contractor format is acceptable provided all necessary requirements are met. Electronic submission of contractor data is required.
- 15.5 **MAINTENANCE:** None required.

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016MA-003
3. DATA TYPE: 3
4. DATE REVISED:
5. PAGE: 1/2
6. TITLE: Progress Report & Metrics
7. DESCRIPTION/USE: To provide data for the assessment of contract progress and HOSC system performance/quality. To provide visibility to contractor and MSFC Management of actual and potential problems, and progress toward meeting the requirements of the contract.
8. OPR: FD40                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: Ten calendar days following the end of the first two months after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY:
  - a. Progress Report: Monthly, no later than the 20th day of the calendar month following the end of the accounting month
  - b. Metrics: Monthly, no later than the 10<sup>th</sup> day of the calendar month following the end of the accounting month
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 2.1.d, 3.2, 3.3, 4.5, 4.6
15. DATA PREPARATION INFORMATION:
  - 15.1 SCOPE: The Progress Report shall provide a comprehensive status on all active tasks and include the necessary information to assess status and identify problems that need resolution for accomplishment of the contract tasks. The Metrics shall provide information regarding the quality and timeliness of overall HOSC systems performance and product deliveries.
  - 15.2 APPLICABLE DOCUMENTS: None
  - 15.3 CONTENTS:
    - a. Progress Report:
      1. For each WBS Level II task, provide the following by facility/ project:
        - (a) Narrative report of status.
        - (b) Narrative report of planned effort for next reporting period.
        - (c) Schedule, showing progress of Level III elements.
        - (d) Labor expended by category.
      2. Status of significant Problem Reports, Change Requests, and other issues as appropriate, including anticipated schedule and resource impacts.
    - b. Metrics: The specific metrics data to be provided shall be determined by mutual agreement between the contractor and the NASA project manager. System performance/quality and product delivery metrics shall cover the following major topics:
      1. Software development and test
      2. Problem reports
      3. Facility outages
      4. Help Desk information
      5. Key accomplishments and plans

**DRD Continuation Sheet****TITLE:** Work Breakdown Structure (WBS) and WBS Dictionary **DRD NO.:** 1016MA-003**DATA TYPE:** 2**PAGE:** 2/2

15.4 **FORMAT:** The Progress Report shall be in presentation chart format. Submittal shall be standard hardcopy or other media as directed by the Contracting Officer. The Metrics data shall be in spreadsheet or other format, as mutually agreed to between the contractor and the NASA project manager. Electronic submittal of the Metrics data is required.

15.5 **MAINTENANCE:** None required.

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016MA-004
3. DATA TYPE: 2
4. DATE REVISED:
5. PAGE: 1/2
6. TITLE: Work Breakdown Structure (WBS) and WBS Dictionary
7. DESCRIPTION/USE: To establish a framework for reporting program cost, schedule, and technical performance. To provide a basis for uniform planning, reporting status, program visibility, and assignment of responsibilities.
8. OPR: RS40/VS10                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: 30 days after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: - Update as required. Revised pages shall be submitted 10 calendar days after contract WBS changes (following Government approval).
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 2.2
15. DATA PREPARATION INFORMATION:
  - 15.1 **SCOPE:** The Work Breakdown Structure (WBS) establishes a product-oriented logical subdivision of hardware, software, services, facilities, etc., that make up the total project scope of work. The WBS Dictionary provides a narrative description of the tasks and effort to be performed in each WBS element.
  - 15.2 **APPLICABLE DOCUMENTS:** None
  - 15.3 **CONTENTS:**
    - a. The WBS index shall include:
      1. Line item number.
      2. WBS elements/tasks listed by title and indented to reflect the level (e.g., level 1 is total contract; levels 2 and following are successively lower levels).
      3. Indication of phase (i.e., research, development, test and evaluation; or production; or both) with which the WBS element is associated.
      4. Contract line item associated with the WBS element.
      5. Performance Work Statement (PWS) paragraph numbers associated with the WBS element.
      6. Specification number of the specification that covers the WBS element (if applicable). If the specification is associated with more than one WBS element, indicate the specification paragraph numbers associated with the WBS element.
      7. Contract end item number of WBS element (if applicable).

## DRD Continuation Sheet

TITLE: Work Breakdown Structure (WBS) and WBS Dictionary DRD NO.: 1016MA-004

DATA TYPE: 2

PAGE: 2/2

15. **DATA PREPARATION INFORMATION (CONTINUED):**

b. WBS Dictionary - The WBS dictionary shall describe the technical and cost content of every WBS element and efforts associated with each element (e.g., design, development, manufacturing). For WBS elements specified elsewhere for cost reporting, the WBS dictionary definitions shall also include the exact narrative of the directly associated PWS paragraphs. The WBS dictionary shall be arranged in the same order as the contract WBS index. Following the description of the WBS element shall be a listing of lower level WBS elements. The WBS dictionary shall include the following for each WBS element:

1. WBS element title, number, and element task description.
2. Performance measurement criteria (PMC).
3. PWS paragraph number.
4. Specification (number and title) associated with the WBS element.
5. Contract line item associated with the WBS element.
6. Date, revision number, revision authorization and approved changes.
7. Contract end item/data item number and quantity.
8. Cost content and description.
9. WBS code and work order/work authorization.
10. Technical content.
11. System contractor.
12. Associate or subcontractor.
13. Applicable PWS narrative.

15.4 **FORMAT:** The WBS shall be in a chart format showing element relationships, arranged in the same order as the WBS provided in the Request for Proposal. The WBS Dictionary shall be ordered in consonance with the WBS index and shall reference each WBS element by its identifier and name.

15.5 **MAINTENANCE:** Changes shall be incorporated by change page or complete reissue.

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016MA-005
3. DATA TYPE: 3
4. DATE REVISED:
5. PAGE: 1/1
6. TITLE: IT Security Status Report
7. DESCRIPTION/USE: To provide metrics on the security alerts/patches and prepare a monthly summary. To provide visibility to contractor and MSFC Management of actual and potential IT Security problems and progress toward meeting the requirements of the contract.
8. OPR: FD40                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: Ten calendar days following the end of the first month after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: Monthly, no later than the 10th day of the calendar month following the end of the accounting month
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 4.4.5
15. DATA PREPARATION INFORMATION:
  - 15.1 SCOPE: The IT Security Status Report shall provide the metrics necessary to ensure that the IT Security systems is being properly monitored and that all alerts are dealt with and that the patches are installed on the appropriate systems in a timely manner.
  - 15.2 APPLICABLE DOCUMENTS:

NPG 2810.1	<i>Security of Information Technology</i>
NFS 1804.470-3	<i>Security Plan for unclassified Federal Information Technology systems</i>
NFS 1852.204-76	<i>Security Requirements for Unclassified Information Technology Resources</i>
  - 15.3 CONTENTS: The IT Security Status Report shall provide metrics on the number of security alerts, the number of security patches received and installed, and the system(s) the security patch(es) were installed on for the given month and the total since ATP
  - 15.4 FORMAT: The IT Security Status Report shall be in presentation chart format. Submittal shall be standard hard copy or other media as directed by the Contracting Officer.
  - 15.5 MAINTENANCE: None required.



## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016MA-006
3. DATA TYPE: 3
4. DATE REVISED:
5. PAGE: 1/1
6. TITLE: Systems Status Monthly Report
7. DESCRIPTION/USE: To provide data for the assessment of systems status. To provide visibility to contractor and MSFC Management of actual and potential problems and progress toward meeting the requirements of the contract.
8. OPR: FD40                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: Ten calendar days following the end of the first months after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: Monthly, no later than the 20th day of the calendar month following the end of the accounting month
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 4.4.5
15. DATA PREPARATION INFORMATION:
- 15.1 **SCOPE:** The Systems Status Monthly Report shall provide a report of the systems problems and the status of system maintenance activities.
- 15.2 **APPLICABLE DOCUMENTS:** None
- 15.3 **CONTENTS:**
  - a. For each system problem, provide the following by system:
    1. Narrative report of system problem.
    2. Narrative report of the effort to correct the problem.
    3. Status of the problem and corrective efforts.
    4. Narrative report of planned effort for next reporting period, if needed.
  - b. Status of system maintenance activities including planned completion dates.
- 15.4 **FORMAT:** The Systems Status Monthly Report shall be in presentation chart format. Submittal shall be standard hard copy or other media as directed by the Contracting Officer.
- 15.5 **MAINTENANCE:** None required.

**DATA REQUIREMENTS DESCRIPTION (DRD)**

1. **DPD NO.:** 1016                      **ISSUE:** BASIC
2. **DRD NO.:** 1016MA-007
3. **DATA TYPE:** 3
4. **DATE REVISED:**
5. **PAGE:** 1/1
6. **TITLE:** HOSC Software Release Monthly Report
7. **DESCRIPTION/USE:** To provide data for the assessment and management of HOSC Software releases. To provide visibility to contractor and MSFC Management of actual and potential problems in meeting software release dates and progress toward meeting the requirements of the contract.
8. **OPR:** FD40                      9. **DM:** FD40
10. **DISTRIBUTION:** Per Contracting Officer's letter
11. **INITIAL SUBMISSION:** Ten calendar days following the end of the first three months after Authority To Proceed (ATP)
12. **SUBMISSION FREQUENCY:** Monthly, no later than the 20th day of the calendar month following the end of the accounting month.
13. **REMARKS:**
14. **INTERRELATIONSHIP:** PWS paragraph 4.4.5
15. **DATA PREPARATION INFORMATION:**
- 15.1 **SCOPE:** The HOSC Software Release Monthly Report shall provide a comprehensive status on the usage of all HOSC software releases.
- 15.2 **APPLICABLE DOCUMENTS:** None
- 15.3 **CONTENTS:**
  - a. For each HOSC software release, provide the following:
    1. Narrative report of status.
    2. Narrative report of planned effort for next reporting period.
    3. Schedule, showing progress of software development.
  - b. Status of any significant problems or issues as appropriate, including anticipated schedule and resource impacts.
- 15.4 **FORMAT:** The report shall be in spreadsheet format. Submittal shall be standard hard copy or other media as directed by the Contracting Officer.
- 15.5 **MAINTENANCE:** None required.

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016MA-008
3. DATA TYPE: 3
4. DATE REVISED:
5. PAGE: 1/1
6. TITLE: Performance Requirements Summary
7. DESCRIPTION/USE: To provide necessary data for the assessment of the contractor performance incentive fee criteria.
8. OPR: FD40                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: Ten calendar days following the end of the first three months after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: Monthly, no later than the 10th day of the calendar month following the end of the accounting month.
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 4.4.
15. DATA PREPARATION INFORMATION:
- 15.1 **SCOPE:** The Performance Requirements Summary will provide metrics regarding the availability of mission critical services, to be used in the determination of the performance incentive fee.
- 15.2 **APPLICABLE DOCUMENTS:** None
- 15.3 **CONTENTS:**  
The following metrics shall be provided:
  - a. Percentage (%) of service availability during the month, for each of the following mission services:
    - 1) Telemetry Processing & Distribution
    - 2) Command Preparation & Execution
    - 3) Provision of Operations Control Products
    - 4) Voice Communication
  - b. For each outage encountered during the month
    - 1) Service affected
    - 2) Duration of outage
    - 3) Cause of outage
- 15.4 **FORMAT:** The report shall be in spreadsheet format. Submittal shall be standard hard copy or other media as directed by the Contracting Officer.
- 15.5 **MAINTENANCE:** None required.

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016OP-001
3. DATA TYPE: 2
4. DATE REVISED:
5. PAGE: 1/2
6. TITLE: Operations/Maintenance Plan
7. DESCRIPTION/USE: To provide the contractor and the Government a baseline document for operability/maintainability.
8. OPR: FD40                      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: 60 days after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: Once, update as required
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 4.0
15. DATA PREPARATION INFORMATION:
  - 15.1 **SCOPE:** The Operations/Maintenance Plan shall define all system operability and maintainability activities appropriate for providing the services and performing the functions set forth in the PWS.
  - 15.2 **APPLICABLE DOCUMENTS:** NONE
  - 15.3 **CONTENTS:** This plan shall define the ground operations and maintenance support of each facility. The plan describes organizational relationships, functional roles, responsibilities and methodologies, but does not provide specific operating procedures, capabilities or requirements. The plan shall address the overall operations and maintenance philosophy and capacities of integrated operations and peripheral support elements. The plan shall include:
    - a. Operating philosophy
      1. Organizational relationships.
        - (a) Internal and external relationships
        - (b) Functional roles.
        - (c) Responsibilities and methodologies
      2. Operational services.
        - (a) Standard services.
        - (b) Optional services.
        - (c) Responsiveness parameters.
          - (1) Return to service
          - (2) Operational response time.
      3. Operational tools.

**DRD Continuation Sheet**

TITLE: Operations/Maintenance Plan

DRD NO.: 1016OP-001

DATA TYPE: 2

PAGE: 2/2

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**15.3 Contents (CONTINUED):****b. Maintenance philosophy.****1. Availability parameters****(a) Overall percentage of system availability.****(b) Preventive maintenance.****(1) Schedule for performing.****(2) Downtime required.****(3) Remedial maintenance.****a. Response time.****b. Meantime to repair****(4) Methodology used to establish parameters.****2. Identification and analysis of risks.****(a) Impact of non-availability.****(b) Trade-offs.****3. Detailed performance approach.****(a) Preventive maintenance.****(b) Remedial maintenance.****15.4 FORMAT:** Contractor format is acceptable.**15.5 MAINTENANCE:** Changes shall be incorporated by change page or complete reissue.

**DATA REQUIREMENTS DESCRIPTION (DRD)**

1. DPD NO.: 1016      ISSUE: BASIC
2. DRD NO.: **1016QE-001**
3. DATA TYPE: 1
4. DATE REVISED:
5. PAGE: 1/1
6. TITLE: Software Quality Assurance Plan
7. DESCRIPTION/USE: To describe the contractor's method for accomplishing the Software Quality Assurance requirements for the contract.
8. OPR: QS10      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: 60 days after Authority To Proceed (ATP)
12. SUBMISSION FREQUENCY: Update as required
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 3.1.2
15. DATA PREPARATION INFORMATION:
  - 15.1 **SCOPE:** The Software Quality Assurance Plan (SQAP) details the procedures, reviews, and audits required to accomplish Software Quality Assurance.
  - 15.2 **APPLICABLE DOCUMENTS**  
IEEE Std 730-1998      *IEEE Standard for Software Quality Assurance Plans*
  - 15.3 **CONTENTS:** The Software Quality Assurance Plan shall provide the information defined in IEEE Std 730-1998.
  - 15.4 **FORMAT:** Contractor format is acceptable.
  - 15.5 **MAINTENANCE:** Changes shall be incorporated by change page or complete reissue. Update as required, to maintain current with program changes.

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. DPD NO.: 1016                      ISSUE: BASIC
2. DRD NO.: 1016SA-001
3. DATA TYPE: 2
4. DATE REVISED:
5. PAGE: 1/3
6. TITLE: On-site Safety and Health Plan
7. DESCRIPTION/USE: To provide the contractor and the Government a baseline document for planning, management, control, and implementation of the contractor's industrial/occupational safety, health, and environmental program.
8. OPR: AD60/QS50/AD10      9. DM: FD40
10. DISTRIBUTION: Per Contracting Officer's letter
11. INITIAL SUBMISSION: Preliminary with proposal
12. SUBMISSION FREQUENCY: 10 days after Authority To Proceed (ATP); update as required
13. REMARKS:
14. INTERRELATIONSHIP: PWS paragraph 2.7; FAR 1852.223-70, *Safety and Health*; FAR 52.223-3, *Hazardous Material Identification and Material Safety Data*; FAR 52.23-5, *Pollution Prevention and Right-to-Know Information*, FAR 52.223-10, *Waste Reduction Program*.
15. DATA PREPARATION INFORMATION:
- 15.1 **SCOPE:** The On-site Safety and Health Plan describes the contractor's method of implementing occupational safety, health, and environmental standards over the duration of the contract.
- 15.2 **APPLICABLE DOCUMENTS:** Implementation of the following Occupational Safety and Health Standards and applicable requirements shall be specified in the plan.
 

29 CFR 1910	<i>Department of Labor; Occupational Safety and Health Administration Standards for General Industry</i>
40 CFR	<i>Protection of the Environment</i>
ANSI Standards applicable to the scope of this contract	
MPG 8500.1	<i>MSFC Environmental Management Program</i>
MPG 1040.3	<i>MSFC Emergency Plan</i>
MPG 1840.3	<i>MSFC Hazardous Chemicals in Laboratories Protection Program</i>
MPG 1810.1	<i>MSFC Occupational Medicine</i>
MPD 1840.3	<i>MSFC Respiratory Protection Program</i>
MPD 1840.2	<i>MSFC Hearing Conservation Program</i>
MPD 1840.1	<i>MSFC Environmental Health Program</i>
MPG 1840.2	<i>MSFC Hazard Communication Program</i>
MWI 3410.1	<i>Personnel Certification Program</i>
MPG 8715.1	<i>Marshall Safety, Health and Environmental (SHE) Program</i>
MPD 8900.1	<i>Medical Operations Responsibilities for Human Space Flight Programs (NOTE: This document only applies to Space Station contracts)</i>
NFPA Standards	<i>National Fire Codes</i>
NPG 8715.3	<i>NASA Safety Manual</i>
NASA-STD-8719.11	<i>Safety Standard for Fire Protection</i>